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DESCRIPTION 2243561 LISTING 2243555 DECK 2243560	DESCRIPTION LISTING ** DECK/TAPE	2191270 2191268 2191269	DESCRIPTION LISTING DECK	2191283 2191281 2191282	DESCRIPTION LISTING DECK/TAPE	2191222 2191220 2191221	DESCRIPT LISTING ** DECK/TAP	2191278
	030A CE UTILITY PROGRAMS		O3AB RELOCATING LOADER	R - 2501	03 OF 1442 FUNCTION TEST		03AF SCA DISPLAY	PROGRAM
	DISK ADJUSTMENT  DESC/LIST  DECK/TAPE	2243957 2243958	DESCRIPTION LISTING DECK	***** 2191284 2191285	DESCRIPTION LISTING DECK	2191226 2191224 2191225	DESCRIPT LISTING ** DECK/TAP	2243562
	03A0/SCOPE LOOPS	2243330	03AC RELOCATING LOADE	R - PAPER TAPE	032F 1442 TIMING TEST		0317 SCA TRANSHIT	RECEIVE-ESC POINT TO POINT
	DESC/LIST DECK/TAPE	2243962 2243963	DESCRIPTION LISTING TAPE	2191288 2191286 2191287	OESCRIPTION LISTING DECK	2191230 2191228 2191229	DESCRIPT Listing Deck/tape	2243971
;	0302 DIMAL	•	0314 1231 FUNCTION TES	ST (NOTE 2)	030E 2501/1442-5 F.T.		031A SCA TRANSHIT	/RECEIVE-BSC HULTI POINT
* THESE TESTS MILET HEE THE 1	DESCRIPTION DECK/TAPE	2243961 2243960	DESCRIPTION LISTING DECK/TAPE	2243555 2243553 2243554	DESCRIPTION LISTING DECK/TAPE	2243552 2243550 2243551	DESCRIPTI Listing Deck/tape	2243974
** TAPE CONTAINS THE P.T. LOA	ASIC DIAGNOSTIC LOADER: 03A3 OR 03AD DER ITH A SYNCHRONOUS COMMUNICATIONS ADAPTER		8300 1403 PRINTER FUN	CTION TEST	TEST CARDS	2243549		
USE RELOCATING LOADER 03A/	, O3AB, OR O3AC		DESCRIPTION LISTING DECK/TAPE	2243558 2243556 2243557				

DATE	EC NUMBER	DATE	EC NUMBER	TAB	LE OF CON	ITENTS	
500068	571005			MÆL	NTENANCE	DIAGNOST	I CS
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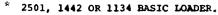
1. ALL TESTS IN VOLUMES 3, 4, AND 5 RUN UNDER CONTROL OF THE DIAGNOSTIC MONITOR: 030D, EXCEPT PID 03AE AND PID 03AF.

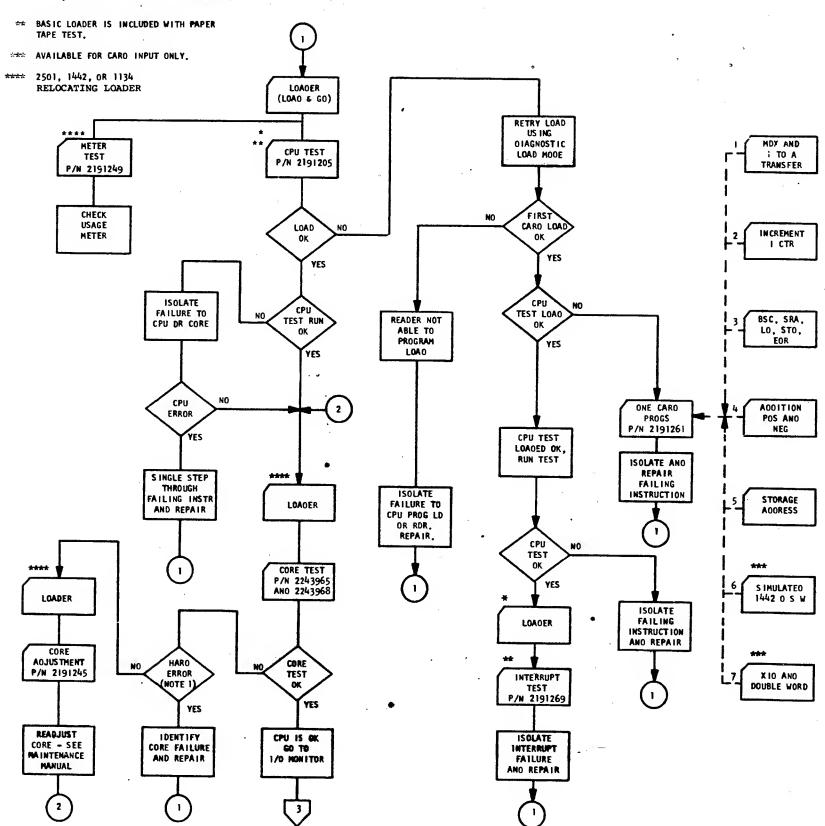
2. DOCUMENTATION IS PRESENT ONLY ON SYSTEMS WITH A 1231.

PID 037F

SYS/7

# IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM CPU TEST INDEX





#### CPU NORMAL OPERATION SUMMARY

#### BASIC LOADER

- 1. LOAO AND GO MODE: PROVIDES NORMAL LOAD FOR CPU AND INTERRUPT TESTS.
- 2. OIAGNOSTIC MODE: USED ONLY WHEN LOAD AND GO MODE IS INOPERABLE, SEE DESCRIPTION FOR DIAGNOSTIC OPERATING INSTRUCTIONS.

### CPU TEST

- 1. SET ALL CONSOLE BIT SWITCHES OFF.
- 2. LOAD BASIC LOADER FOLLOWED BY CPU TEST DECK AND TWO BLANK CAROS.
- 3. PROG WILL LOAD AND STOP WITH B REG AT 3000 ADDR. 012D.
- 4. SET ALL BIT SWITCHES TO FFFF AND PRESS PROG START.
- 5. PROG WILL STOP WITH 8 REG AT 3001 AODR. 0284.
- 6. SET SWITCHES OFF PRESS START.
- PROG WILL HALT WITH B REG AT 3002 AOOR. 02C5. SEE 3.2 FOR OPTIONS AND PRESS START.
- 8. PROG WILL RUN APPROX 2 MIN. THEN STOP AT END OF TEST WITH B REG AT 3003 ADDR 0F62.
- 9. ERRORS ARE INDICATED BY ERROR WAITS, SEE DESCRIPTION SECT. 3.5.

#### CORE TEST

- 1. SET ALL CONSOLE BIT SWITCHES TO ZERO.
- LOAO RELOCATING LOADER FOLLOWED BY HI CORE TEST DECK, LO CORE TEST DECK AND TWO BLANK CAROS.
- 3. HI CORE WILL LOAD, AND HALT WITH B REG AT 3001. THE CORE SIZE WILL BE IN THE ACCUMULATOR.
- 4. FRESS START, HI CORE WILL RUN 5 MIN. FOR EACH 8K.
- PRESS START, LO CORE WILL LOAD, HALT TO DISPLAY CORE SIZE, RUN APPROX.
   MIN., THEN STOP AT ENO OF TEST WAIT 30FF, AT LOCATION OGCC.
- 6. ERRORS ARE INDICATED BY ERROR WAITS; SEE DESCRIPTION SECT. 3.5.

#### CORE AUJUSTMENT

1. USEO ONLY WHEN A CORE VOLTAGE ADJUSTMENT IS NECESSARY, SEE DESCRIPTION.

# ONE CARD PROGRAMS

 USED ONLY WHEN PROGRAM LOAD IS FUNCTIONING, BUT THE BASIC DIAGNOSTIC LOADER IS UNABLE TO CORRECTLY LOAD THE CPU OR CORE TESTS. SEE DESCRIPTION FOR OPERATION.

# INTERRUPT TEST

- 1. USEO ONLY TO AID IN CHARGOSING BASIC LOACER FAILURES IN LOAD AND GO MODE. SEE DESCRIPTION FOR OPERATION.
- NOTE 1: A HARO ERROR IS A REPEATABLE ERROR WHICH IS CAUSED BY A HARDWARE FAILURE. A SOFT ERROR IS AN INTERMITTENT ERROR WHICH MAY BE CAUSED BY EITHER AN INTERMITTENT HARDWARE FAILURE OR BY MARGINAL CORE VOLTAGE ADJUSTMENT. THE DISTINCTION BETWEEN THE TWO IS DIFFICULT AND MUST BE LEFT TO THE DISCRETION OF THE INDIVIOUAL CE.
  - 2: PART NUMBER IS THE SAME FOR BOTH CARD DECK OR PAPER TAPE PROGRAM. WHEN ORDERING SPECIFY CARD OR TAPE.
  - 3: CONTROL OPTION BIT SWITCH SETTINGS ARE FOUND IN THE PROGRAM DESCRIPTION.

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IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM CPU FUNCTION TEST

# 1. PURPOSE

THE PURPOSE OF THE 113D CENTRAL PROCESS UNIT FUNCTION TEST IS TO LOCATE FAILING INSTRUCTIONS. EACH SEPARATE CPU INSTRUCTION IS TESTED AND CHECKED FOR COMPLIANCE WITH THE PRODUCT SPECIFICATIONS. FEATURES THAT ARE NOT UNIQUE TO AN OPERATION CODE (INDEXING, INDIRECT ADDRESSING, ETC.) ARE ALSO TESTED. I/O RELATED FEATURES (INTERRUPT, CYCLE STEAL, ETC.) ARE NOT TESTED.

\*\*\*\* PROGRAM RUNNING TIME 2 USEC MACHINE - APPROXIMATELY 1 MINUTE 4 USEC MACHINE - APPROXIMATELY 2 MINUTES \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

#### 2. PREREQUISITES

#### PROGRAM PREREQUISITES 2.1

THE PROGRAM CAN BE OPERATED BY ITSELF BUT MUST BE LOADED BY THE 1130 BASIC DIAGNOSTIC LOADER.

### **EQUIPMENT PREREQUISITES**

- A. 1130 PC HAVING 4096-WORD STORAGE.
- B. CARO READER OR PAPER TAPE READER.

# 3. USE PROCEDURE

#### PROGRAM LOADING 3.1

THE 113D CPU FUNCTION TEST (D3A1) IS LOADED BY THE 1130 BASIC LOADER. SEE THE 113D BASIC LOADER OCCUMENTATION FOR THE DESCRIPTION OF THE LOADING PROCEDURE.

### PROGRAM OPERATION

AFTER THE PROGRAM IS LOADED THE FOLLOWING NORMAL WAITS OCCUR,

# LOCATION

B REG SYMBOLIC

DESCRIPTION AND ACTION

3DDD (XDDO) START OF PROGRAM. SET ALL BIT SWITCHES ON. PRESS START.

TESTING OF BIT SWITCHES ON COMPLETE, TURN OFF, PRESS START. 3D01 (XD01)

TESTING OF BIT SWITCHES OFF COMPLETE SET IN OPTION, PRESS START. 3D02 (XD03)

PROGRAM COMPLETED. PUSH START TO RERUN PROGRAM. IF OTHER WAITS 3003 (X007). OCCUR, REFER TO SECTION 3.5 FOR ERROR ISOLATION.

ANY WAITS OTHER THAN THOSE ABOVE ARE ERROR WAITS.

## WHEN AN ERROR WAIT IS OBTAINED,

- 1. SEE THE PROGRAM LISTING TO DETERMINE THE PROBLEM. ERROR WAITS ARE OCCUMENTED AT THE FRONT OF THE PROGRAM LISTING BY THE CONTENTS OF THE B REGISTER.
- 2. IF THE ERROR WAIT HAS B REGISTER LESS THAN 3069, THE OPERATOR CANNOT LOOP ON THAT ERROR. INSTEAD, THE OPERATOR SHOULD SINGLE INSTRUCTION STARTING AT THE BEGINNING OF THE FAILING ROUTINE TO DETERMINE THE EXACT FAILURE. (SECTION 3.5)

2 A

- 3. IF THE ERROR WAIT HAS B REGISTER GREATER THAN 3D6B, THE OPERATOR SHOULD, (SECTION 3.5)
  - A. LOOP INSTRUCTION BEING TESTED (BIT SW B ON) OR IF A LARGER LOOP IS DESIRED LOCK ON ERROR (BIT SW 12 ON) OR
    - LOOP ON ROUTINE (BIT SW 10 ON)
  - B. SINGLE STEP TO LOCATE THE EXACT FAILURE.
  - C. IF NO ERROR OCCURS, BYPASS THE ERROR WAIT (BIT SW 14 ON) AND USE A SCOPE TO DETERMINE THE FAILURE.

#### TABLE 1

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*								•	•		•		•	•						*
*								•	•		•			•		1			BYPASS ERROR WAIT (SEE NOTE)	*
*								•	•		•		•	•						*
*								٠	•		•		•	1					LOCK ON ERROR	*
*								•	•											*
*								•	•		•		l.						LOOP PROGRAM	*
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*								٠	٠		1								LOOP ON ROUTINE	*
*								•	•											*
*								•	1	• • •			• •	• •				• •	LOOP ON INSTRUCTION BEING TESTED	*
*								•												*
*								1											BYPASS MPL/DIV TEST	*
*																			·	*
*																			ST BE ON TO MAKE BIT 14 EFFECTIVE.	*

3.3 TERMINATION

> NORMAL TERMINATION DCCURS WITH PROGRAM STOPPING AT WAIT WITH B REG = 3003.

RESTART PROCEDURE

PRESS STOP, RESET, AND START BUTTONS.

ERROR WAITS 3.5

THERE ARE TWO TYPES OF ERROR CONDITIONS WHICH CAUSE ERROR WAITS.

- 1. ERRORS WHICH USE THE COMMON ERROR CONTROL ROUTINE (FOOD).
- 2. ERRORS WHICH OCCUR BEFORE SUFFICIENT PORTIONS OF THE HAROWARE HAVE BEEN CHECKED OUT TO ALLOW USE OF THE COMMON ERROR CONTROL

ERRORS WHICH USE THE COMMON ERROR CONTROL ROUTINE HAVE B REG NUMBERS OF /3069 AND UP. WHEN A NUMBERED WAIT OCCURS, BITS 5-15 OF THE STORA (B REG = 3XXX). WHEN A NUMBERED WAIT OCCURS, BITS 5-15 OF THE STORAGE BUFFER REGISTER GIVE THE ERROR IDENTIFICATION NUMBER. TO FIND THE FAILING ROUTINE, LOOK IN THE ERROR IDENTIFICATION TABLE (IN FRUNT OF THE LISTING) . THIS WILL GIVE YOU THE SYMBOLIC AND ACTUAL STARTING ADDRESS OF THE ROUTINE THAT FAILED.

ERRORS WHICH OD NOT USE THE COMMON ERROR CONTROL ROUTINE HAVE B REGISTER FROM /3003 THRU /3068. THE INSTRUCTION REG WILL POINT DIRECTLY TO THE FAILING ROUTINE. TO FACILITATE FINDING THE START OF A TEST ROUTINE EACH TEST ROUTINE BEGINS WITH A LABEL HAVING AN A OR B AS ITS FIRST LETTER. IN THE LISTING EACH ROUTINE IS FURTHER BRACKETED BY A SOLID LINE OF ASTRISKS. TO FIND THE FAILING ROUTINE OF ERRORS WHICH DO NOT USE THE COMMON ERROR CONTROL START AT THE LOCATION SPECIFIED BY THE ERROR WAIT AND WORK UP THE LISTING (BACKWARDS) UNTIL THE FIRST SYMBOLIC LOCATION WHICH HAS A LABEL BEGINNING WITH A AND B. THIS IS THE START OF THE FAILING ROUTINE.

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PROG ID 03A1-\* PAGE

TWO WAYS OF LOCATING A FAILURE ARE AS FULLOWS-

- A. DETERMINE WHAT FAILURE CAUSED THE ERROR WAIT. TO LOCATE THE FAILURE, IT IS RECOMMENDED THAT THE PROGRAM BE MANUALLY ENTERED AT THE START OF THE FAILING ROUTINE AND SINGLE INSTRUCTION, FOLLOWING THE LISTING TO DETERMINE THE EXACT FAILURE.
- B. USE AN OSCILLOSCOPE TO HELP LOCATE THE FAILURE. IF THE FAILURE IS IN THE COMMON-ERROR ROUTINE, SIMPLY TURN ON CONSOLE ENTRY SWITCH B AND DEPRESS START PUSHBUTTON TO LOOP ON THE INSTRUCTION BEING TESTED. IF THE FAILURE IS IN THE FIRST PART OF THE PROGRAM (BEFORE THE COMMON ERROR ROUTINE INSTRUCTIONS HAVE BEEN CHECKED OUT), A BRANCH (MDX) TO THE BEGINNING OF THE ROUTINE MAY BE MANUALLY INSERTED IN PLACE OF THE WAIT INSTRUCTION. THEN, THE ROUTINE MAY BE LOOPED.
- 4. PRINTOUTS (NONE)

IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 113D SYSTEM

#### 5. COMMENTS

CPU FUNCTION TEST

THE 113D CPU FUNCTION TEST STARTS WITH VERY SIMPLE INSTRUCTIONS AND OETERMINES IF EACH INSTRUCTION PERFORMS TO SPECIFICATIONS. EACH SUCCESSIVE ROUTINE ATTEMPTS TO UTILIZE ONLY AN INSTRUCTION THAT HAS NOT BEEN PREVIOUSLY TESTED. THE PROGRAM OPTIONS PROVIDE A MEANS FOR CONTINOUSLY LOOPING THE ENTIRE PROGRAM AND ALSO ALLOW FAILING ROUTINES TO BE LOOPED.

AN ATTEMPT IS MADE DURING THE EARLY STAGES OF THE PROGRAM TO DEVELOP THUSE INSTRUCTIONS WHICH ALLOW THE USAGE OF THE COMMON CONTROL (FDDE AND FDO5) AND ERROR (FDDO) ROUTINES. AFTER THESE INSTRUCTIONS HAVE BEEN TESTED THE USER THEN HAS THE ABILITY TO REQUEST VARIOUS CONTROL OPTIONS BY MEANS OF THE DATA ENTRY SWITCHES.

#### OPERATING MODES 5.1

THE NORMAL MODE OF OPERATION IS WITH THE DATA ENTRY SWITCHES SET TO /ODDO. THIS CAUSES A SINGLE PASS THROUGH THE PROGRAM WITH AN ERROR WAIT OCCURING IF AN ERROR IS DETECTED.

IF AN ERROR IS DETECTED AND THE COMMON ERROR WAIT OCCURS, THE USER SHOULD TURN ON THE '' LOOP ON ROUTINE '' (DATA ENTRY SWITCHES SET TO /0020) AND SINGLE INSTRUCTION THROUGH THE FAILING ROUTINE TO ISOLATE THE FAILING INSTRUCTION.

IF THE FAILING ROUTINE DOES NOT FAIL WHEN EXECUTED IN SINGLE INSTRUCTION MODE, THE USER CAN TURN ON THE '' BYPASS ERROR WAIT'' SWITCH AND THE ''LOOP ROUTINE'' SWITCH (DATA ENTRY SWITCHES SET TO /DD22) AND PROCEED TO USE SCOPING TECHNIQUES TO ISOLATE THE FAILURE.

# PROGRAM LABELS

LABELS OCCURING IN THE PROGRAM LISTING CAN BE QUICKLY IDENTIFIED AS FOLLOWS-

- A. LABELS STARTING WITH A OR B INDICATE THE BEGINNING OF A TEST ROUTINE.
- LABELS STARTING WITH G, H, J, OR K INDICATE COMMUNICATION LABELS WITH A ROUTINE.
- C. LABELS STARTING WITH V OR X ARE RESERVED FOR WAITS.
- LABELS STARTING WITH N, R, OR S INDICATE A CONSTANT UR WORK AREA.
- E. LABELS STARTING WITH F, W, Z OR U ARE USED IN COMMON OR SPECIAL ROUTINES THAT ARE NOT A REGULAR TEST ROUTINE.

### APPENDIX (NONE)

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PAGE

CPU FUNCTION TEST

DATE

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	*			3A100080
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	*			3A100100
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	*			3A100140
	*	•		3A100150
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	*			3A100180
	*			3A100190
	*			3A100200
**********	**********	******	**********	***3A100210
	*			3A100220
	_	PERATING INS	TRUCTIONS	3A100230
	*		CETTINGS	3A100240 3A100250
	*	BIT SWITCH	25111MP2	3A100250
	*	0.7.7.14.00	BYPASS ERROR WAIT	3A100270
	*	011 14 UM	DIPAGS ERROR WALL	3A100280
	*	AIT 12	OR 8 MUST BE ON TO	3A100290
	*		IT 14 EFFECTIVE.	3A100300
	*	· Mile C		3A100310
	*	BIT 13 NOT	USEO	3A100320
	*			3A100330
	*	81T 12 LOC	K ON ERROR	3A100340
	*			3A100350
	*	81T 11 ON	LOOP PROGRAM	3A100360
	*			3A100370
	*	81T 10 ON	LOOP ROUTINE	3A100380
	*			3A100390 3A100400
	*	BIT 9 NOT	USED	3A100400 3A100410
	*	017 0 100	P ON INSTRUCTION BEING	3A100420
	*		STEO	3A100430
	•		BYPASS MPL/OIV TEST	3A100440
		<b>51.</b>		3A100450
	*			3A100460
	*			3 <b>A</b> 10 <b>0470</b>
	*			3A100480
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2000 0 -15C	*		SET DATA ENTRY SWITCHES	3A100590
	*		TO /FFFF & PRESS START	3A100600
	*			3A100610
	*		\$18000 ALSO SET S/P SWS	
	*		/FFOO ANO PRESS START	3A100630
	*			3A100640
3001 0 0285	OC	13100x	SET SENSE/PROG ANO	3A100650
	*		DATA ENTRY SWITCHES	3A100660
			TO ZEROS AND PRESS	3 <b>A100</b> 670
	*			24100400
	* *		START	3A10 <b>0</b> 680 3A100690

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CPU FUNCTION TEST

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X003&1 SET SWITCHES FOR OPTIONS 3A100700

	3002 0 0206	OC.	3E00X	_	SWITCHES PRESS STA	FOR OPTIONS RT		A100700 A100710
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		********* *	*********	******		******		A100760
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		* N/A	N/A N/ BSC SKIPPE			AFIER 131		3A101250
		* SECON	BSC FAILE	O TO SKIF	-INDICATIN	G 1ST BSC		3A101260
		* FAILE	TO TURN D	FF OVERFL	-OM			3A101270
		*						3A101280 3A101290
	2012 0 0135	*	C A0C0	, A	SC+C			3A101300
	3012 0 013F	* N/A	N/A N/	A N/A	N/A OFF	:		3A101310
			IO NOT SKIF	WITH OVE	RFLOW OFF			3A101320
		*						3A101330 3A101340
	2012 0 0140	* 0	C A100	) L(	)			3A101350
	3013 0 014C	* 0000	N/A N/		N/A N/A	<b>\</b>		3A101360
			NOT EQUAL	TO 0000				3A101370

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	•	3A101380
**********	**************	
AOORESS	•	3A101400
OF	•	3A101410
B-REG ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A101420
***********	*******************	
3014 0 014C	OC A100 LO	3A101440
	* 0000 N/A N/A N/A N/A N/A 1ST LO	3A101450
	* 0000 N/A N/A N/A N/A 2N0 L0	3A101460
	* A LOAO 0000 FOLLOWED BY LOAO 0000 010 NOT	3A101470 3A101480
	* LEAVE ACCUM EQUAL TO 0000	3A101490
	•	3A101500
3015 0 014C	OC A100 BSC+E	3A101510
3015 0 0140	* 0000 N/A N/A N/A N/A	3A101520
	* BSC FAILED TO SKIP	3A101530
	•	3A101540
	· •	3A101550
	•	3A101560
•	•	3A101570
3016 0 0154	OC A140 LO	3A101580
	* 0000 N/A N/A N/A N/A N/A 1ST VALVE * FFFF N/A N/A N/A N/A AFTER LO	3A101590 3A101600
	* FFFF N/A N/A N/A N/A N/A AFTER LO * LOAO FFFF ON TOP OF 0000 010 NOT LEAVE ACC	3A101610
	* NEGATIVE	3A101620
	*	3A101630
	•	3A101640
3017 0 0154	OC A140 BSC+&	3A101650
	* FFFF N/A N/A N/A N/A	3A101660
	•	3A101670
	•	3A101680
3018 0 0154	DC A140 BSC+E	3A101690
	* FFFF N/A N/A N/A N/A	3A101700
	* BSC SKIPPEO SHOULO NOT HAVE	3A101710
	•	3A101720 3A101730
2010 0 015/	* OC A140 ACCUM NOT EQUAL 7FFF	3A101740
3019 0 0154 301A 0 0154	OC A140 ACCUM NOT EQUAL 7FFF DC A140 ACCUM NOT EQUAL 3FFF	3A101750
3018 0 0154	OC A140 ACCUM NOT EQUAL 1FFF	3A101760
301C 0 0154	OC A140 ACCUM NOT EQUAL OFFF	3A101770
3010 0 0154	OC A140 ACCUM NOT EQUAL OFF	3A101780
301E 0 0154	OC A140 ACCUM NOT EQUAL O3FF	3A101790
301F 0 0154	OC A140 ACCUM NOT EQUAL OIFF	3A101800
3020 0 0154	OC A140 ACCUM NOT EQUAL OOFF	3A101810
3021 0 0154	OC A140 ACCUM NOT EQUAL 007F	3A101820
3022 0 0154	OC A140 ACCUM NOT EQUAL 003F	3A101830
3023 0 0154	OC A140 ACCUM NOT EQUAL COLF	3A101840
3024 0 0154	OC A140 ACCUM NOT EQUAL OOOF	3A101850 3A101860
3025 0 0154 3026 0 0154	OC A140 ACCUM NOT EQUAL 0007 OC A140 ACCUM NOT EQUAL 0003	3A101870
3027 0 0154	OC A140 ACCUM NOT EQUAL 0001	3A101880
3028 0 0154	OC A140 ACCUM NOT EQUAL OCCO	3A101890
3029 0 0154	OC A140 ACCUM NOT EQUAL 0000	3A101900
	* FFFF N/A N/A N/A N/A N/A LOADEO	3A101910
	* 0000 N/A N/A N/A N/A N/A AFTER SRADS	3A101920
	* THE ABOVE WAITS OCCUR AS A RESULT OF A	3A101930
	* FAILURE ON A ROUTINE THAT LOADS FFFF ON	3A101940
	* 0000 AND CHECKS USING SRA 1 AND 8SC E.	3A101950
	•	3A101960
3024 0 0140	OC A180 ACCUM NOT EQUAL FFFF	3A101970 3A101980
302A O 01A0 3028 O 01A0	OC A180 ACCUM NOT EQUAL FFFF OC A180 ACCUM NOT EQUAL FFFF	3A101980
302C O 01A0	OC A180 ACCUM NOT EQUAL 7FFF	3A102000
3020 0 01A0	OC A180 ACCUM NOT EQUAL 3FFF	3A102010
302E 0 0154	OC A140 ACCUM NOT EQUAL 1FFF	3A102020
302F 0 01A0	OC A180 ACCUM NOT EQUAL OFFF	3A102030
3030 0 01A0	OC A1BO ACCUM NOT EQUAL O7FF	3A102040
3031 0 01A0	OC A180 ACCUM NOT EQUAL O3FF	3A102050

•	3A1020
	3A1020
	3A1021
	3A1021
	3A1021
	341021
	3A1021 3A1021
	3A1021
	3A1021
	3A1021
	3A1022
* FAILURE ON A ROUTINE THAT LOADS FFFF ON	3A1022
* FFFF AND CHECKS USING SRA 1 AND 8SC E.	3A1022
•	3A1022
*	3A1022
OC A1CO LO 0000 ON 0000	3A1022
* 0000 N/A N/A N/A N/A	3A1023
* ACCUM NOT EQUAL OCCO	3A1023
	3A1023
	3A1023
OC Alco LO FFFF ON OOOO	3A1023
* 0000 N/A N/A N/A N/A N/A 8EFORE LO	3A1023
* FFFF N/A N/A N/A N/A AFTER LO	3A1023
	3A1023
	3A1023
	3A1023
	3A1024
	3A1024
	3A1024
	3A1024
	3A102
	3A1024
	3A1024
	3A102
	3A1024
	3A102
* NOT RESULT IN ACCUM EQUAL 0000	3A102
*	3A102
	3A102
OC A100 EDR	3A102
OC A100	3A102
* 0000 N/A N/A N/A N/A N/A 8EFORE	3A102
* FFFF N/A N/A N/A N/A S/8 AFTER	3A102
* WITH ACCUM EQUAL GOOD AN EOR USING FFFF 010	3A102
* NOT RESULT IN ACCUM EQUAL FFFF	3A102
•	3A102
•	3A102
DC A100 EOR	3A102
	3A102
	3A102
	3A102
* NOT RESULT IN ACCUM EQUAL FFFF	3A102
# AUI KESULI IN MCCON LOUME !!!!	3A102
	* A-REG O-REG XR-1 XR-2 XR-3 STATUS  OC A180 ACCUM NOT EQUAL OIFF OC A180 ACCUM NOT EQUAL OOFF OC A180 ACCUM NOT EQUAL OOOF OC A180 ACCUM NOT EQUAL OOOF OC A180 ACCUM NOT EQUAL OOOF OC A180 ACCUM NOT EQUAL OOOO ** *** OOOO N/A N/A N/A N/A N/A N/A N/A LODOCE ** ** OOO N/A N/A N/A N/A N/A N/A N/A LODOCE OOOO N/A N/A N/A N/A N/A N/A N/A ** ** OC A1CO LO GOOO ON OOOO ** ** OC A1CO LO GOOO ON OOOO ** ** OC A1CO LO FFFF ON OOOO ** ** OC A1CO LO FOFF ON OOOO ** ** OC A1CO LO FFFF ON OOOO ** ** OC A1CO LO FOFF ON OOOO ** ** OC A1CO LO FOFF ON OOOO ** ** OC A1CO EQUAL FFFF ** OC A1CO EQUAL FFFF ON OOOO ** ** OC A1CO EQUAL OOOO ON EOR USING OOOO DIO ** ** OC A1CO EQUAL OOOO ON EOR USING FFFF OIO ** ** OC A1CO EQUAL FFFF ON OOOO ** ** OC A1CO EQUAL FFFF ON OOOO ** ** OC A1CO EQUAL FFFF ON OOOO OOO ** ** OC A1CO EQUAL FFFF ON OOOO OOO ** ** OC A1CO EQUAL FFFF ON OOOO OOO ** ** OC A1CO EQUAL FFFF ON OOOO OOOO ** ** OC A1CO EQUAL FFFF OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO

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*******	******************************	*3A102740
	*	3A102750
<b>-</b>	*	3A102760
B-REG ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS ************************************	3A102770
3045 0 01F5	OC A100 SRA & EOR	
_		3A102790
	₹ 7FFF N/A N/A N/A N/A N/A S/B AFTER SRA * 0000 N/A N/A N/A N/A N/A S/B AFTER EOR	
	* WITH ACCM EQUAL 7FFF AN EOR USING 7FFF OID NCT	3A102B20
	* BESULT IN ACCUM EQUAL TO 0000	3A102B30
	* RESULT IN ACCM EQUAL TO 0000	3A102B40
	•	3A102B50
3046 0 0214	OC A1EO LO LONG FGRM * 0000 N/A N/A N/A N/A N/A S/R AFTER LO	3A102B60
	* 0000 N/A N/A N/A N/A N/A S/B AFTER LO  * ACCUM NOT EQUAL 0000-1NDICATING WRONG	3A102B70
	* LOCATION WAS LOADED	3A102BB0 . 3A102B90
	*	3A102900
	<b>*</b>	3A102910
3047 0 0214	OC AlEO LO LONG FORM	3A102920
	* C+N1EO. N/A N/A N/A N/A S/B AFTER LO	3A102930
	* 0000 N/A N/A N/A N/A N/A S/B AFTER EOR	3A102940
	* ACCUM NET EQUAL 0000 INDICATING WRONG LOCATION	3A102950
	* WAS LDADED	3A102960
		3A102970
3048 0 0220	OC A1FO LO INO	3A102980 3A102990
3049 0 0220	OC A1FO LO INO	3A103000
	* 0000 N/A N/A N/A N/A S/B FOR BSC	3A103010
	* ACCUM NOT EQUAL OOOD INDICATING WRONG	3A103020
	* LOCATION WAS LOAGED	3A103030
		3A103040
304A 0 0220	OC A200 BSC LONG FORM	3A103050
		3A103060
		3A103070 3A1030B0
!		3A103090
304B 0 0220		3A103100
		3A103110
		3A103120
304C 0 0220	* OC +200 PCC 5 + CNC 500H	3A103130
3040 0 0220	OC A200 BSC+E LONG FORM OC A200	3A103140
	CECE NAME AND ADDRESS OF THE PARTY OF THE PA	3A103150
	A DEC SELL THERE	3A103160 3A103170
		3A103180
		3A103190
304E 0 0220		3A103200
304F 0 0220		3A103210
	FFFF N/A N/A N/A N/A N/A S/B AT TEST ■ DIO NOT SKIP OR SKIPPEO - SHOULO BR.	3A103220
	# 010 MOL 2KIL OK 2KILLED - 2HOOFO BK*	3A103230 3A103240
. 1		3A103250
3050 0 0220	OC A200 BSC.Z LONG FORM	3A103260
3051 0 0220	OC A200	3A103270
	FFFF N/A N/A N/A N/A N/A S/B AT TEST	3A103280
	* BSC 010 NOT SKIP OR SKIPPEO - SHOULD BR.	3A103290
		3A103300
3052 0 0220	OC A200 BSC+- LONG FORM	3A103310
		3A103320 3A103330
	BSC BRANCHEO-SHOULD NOT	3A103340
:	•	3A103350
		3A103360
3053 0 0220		3A103370
3054 0 0220	OC A200	3A103380
	* N/A N/A N/A N/A N/A CEO S/B AT TEST	3A103390
	•	3A103400
•	-	3A103410

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AOORESS	******************	**3A103420
OF	•	3A103430
B-REG ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3 <b>A103440</b> 3 <b>A1034</b> 50
***********		**3A103460
3055 0 0220	OC A200 BSC+O LONG FORM	3A103470
<b>3056 0 0220</b>	OC A200 ** N/A N/A N/A CCO C/P AT TCCT	3A1034B0
	* N/A N/A N/A N/A N/A CEO S/B AT TEST  * BSC DIO NOT SKIP OR SKIPPEO-SHOULD BRANCH	3A103490
	* DOG GIO NOI SKIP OK SKIPPED-SHOOLD BRANCH	3A103500
	•	3A103510 3A103520
3057 0 0220	OC A200 BSC+O LONG FORM	3A103530
	* N/A N/A N/A N/A C S/B AT TEST	3A103540
	* BSC FAILED TO TURN OFF OVERFLOW	3A103550
	•	3A103560
305B 0 0220	OC A200 BSC+C LONG FORM	3A103570 3A103580
	* N/A N/A N/A N/A OFF S/B AT TEST	3A103590
	* BSC BRANCHEO-SHOULO NOT	3A103600
•	*	3A103610
3059 0 0220	OC A200 BSC+O LONG FORM	3A103620
	* N/A N/A N/A N/A N/A OFF S/B AT TEST	3A103630 3A103640
	* BSC BRANCHED-SHOULO NOT	3A103650
	•	3A103660
305A 0 0220	♥ OC A200 BSC+E+ LONG FORM	3A103670
305B 0 0220	OC A200 BSC+&- LONG FORM OC A200	3A1036B0
	* 0000 N/A N/A N/A N/A	3A103690 3A103700
	* BSC 010 NOT SKIP OR SKIPPED-SHOULD BRANCH	3A103710
	•	3A103720
305C 0 0220	# 0C A200 BSC.£~ LONG FORM	3A103730
3030 0 0220	OC A200 BSC.E-LONG FORM  * FFFF N/A N/A N/A N/A N/A S/B AT TEST	3A103740
	* BSC BRANCHEO-SHOULD NOT	3A103750 3A103760
	•	3A103770
2050 0 0000	•	3A103780
3050 0 0220	OC A200 BSC, E- LONG FORM  * 0001 N/A N/A N/A N/A N/A S/R AT TEST	3A103790
	* 0001 N/A N/A N/A N/A N/A S/B AT TEST * BSC BRANCHEO SHOULO NOT	3A103B00
	*	3A103B10 3A103B20
	•	3A103B30
305E 0 0220	OC A200 BSC INDIRECT	3A103B40
305F 0 0220	OC A200 * BSC 010 NOT SKIP OR SKIPPEO-SHOULO BRANCH	3A103B50
	+ P2C GIG MOL 2KIL OK 2KILLER-2MODER BKWCH	3A103B60 3A103B70
	*	3A103BB0
3060 0 0270	OC A240 B\$I	3A103B90
	* UNCONDITIONAL BSI DIO NGT BRANCH	3A103900
	*	3A103910
3061 0 0270	OC A240 BS1	3A103920
	* UNCONDITIONAL BSI DID NOT STORE I CTR	3A103930 3A103940
	* CORRECTLY	3A103950
	*	3A103960
3062 0 0270	* 05 A240 DEL 5 AB40 FROM	3A103970
3063 0 0270	OC A240 BSI.E LONG FORM OC A240	3A1039B0 3A103990
	* 0000 N/A N/A N/A N/A S/B AT TEST	3A104000
	* BSI DIO NOT SKIP OR SKIPPEO-SHOULD BRANCH	3A104010
	<b>*</b>	3A104020
3064 0 0270	* OC A240 BS1-E LONG FORM	3A104030
2007 U UZIU	OC A240 BSI,E LONG FORM  * BSI DIO NOT STORE THE I CTR CORRECTLY	3A104040 3A104050
	*	3A104060
	*	3A104070
3065 0 02B2	OC A900 STORE	3A1040B0
	* STORE INSTRUCTION FAILED	3A104090

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ADDRESS	***************************************
0F	•
EG ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS
	***************************************
66 0 0282	OC A900 XIO SENSE/PROG SWS
	* FFOO N/A N/A N/A N/A N/A S/8 AT TEST * ACCUM NOT EQUAL TO FFOO SENSE/PROG SWS
	* WERE INCORRECTLY SENSED
	* * /
67 0 0282	DC A900 XIO OATA ENTRY SHS
	* FFOO N/A N/A N/A N/A N/A S/8 AT TEST
	* ACCUM NOT EQUAL TO FFFF DATA ENTRY SWS
	* WERE INCORRECTLY READ
	•
0 0 0303	*
8 0 0282	DC A900 XIO SENSE/PROG SWS
	* FFOO N/A N/A N/A N/A N/A S/8 AT TEST
	* ACCUM NOT EQUAL TO 0000 SENSE/PROG SWS * WERE INCORRECTLY SENSED
	* WERE INCORRECTLY SENSED
	•
0 0282	DC A900 XID
	* 0000 N/A N/A N/A N/A NT/8 AT TEST
	* ACCUM NOT EQUAL TO ODOODATA ENTRY SHS
	* WERE INCORRECTLY READ
	*
	•
	•
	•
	*************************************
	* THE FOLLOWING FORONS AND MANON SO DAY THE
	* THE FOLLOWING ERRORS ARE HANDLED BY THE
	* COMMON ERROR CONTROL ROUTINE. THE 1D NUMBER * SHOWN FOR EACH ERROR WILL APPEAR IN 81TS
	* 5 THRU 15 OF THE WAIT INSTRUCTION.
	* 5 THRU 15 OF THE WAIT INSTRUCTION. *
	* 5 THRU 15 OF THE WAIT INSTRUCTION.
0 0208	* 5 THRU 15 OF THE WAIT INSTRUCTION.  * *********************************
0 0208	* 5 THRU 15 OF THE WAIT INSTRUCTION.  * *********************************
0 0208	* 5 THRU 15 OF THE WAIT INSTRUCTION.  * **********************************
0 0208	* 5 THRU 15 OF THE WAIT INSTRUCTION.  * **********************************
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8 0 02E2	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************
8 O 02E2	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************
3 O 02E2	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************
O 02E2	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************
	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************
3 O 02E2	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************
0 02E2 0 02E0	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************
0 02E2 0 02E0	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************
8 O O2E2	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************
3 0 02E2 3 0 02E0	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************
3 0 02E2 3 0 02E0	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************
0 02E2 0 02E0	* 5 THRU 15 OF THE WAIT INSTRUCTION.  * **********************************
0 02E2 0 02E0	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************
8 0 02E2 C 0 02E0	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************
0 02E2 0 02E0	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************
0 02E2 0 02E0 0 02F8	* 5 THRU 15 OF THE WAIT INSTRUCTION.  *  ********************************

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ADDRESS	•	3A1047
OF	•	3A1048
B-REG ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A1048
• • • • • • • • • • • • • • • • • • • •	******************************	
		3A1048
306F 0 0318	DC A2CO AND-MEMORY#0000	3A1048 3A1048
	* 0000 N/A N/A N/A N/A N/A S/8 AFTER LD	3A1048
	# 0000 N/A N/A N/A N/A AFTER AND	3A1048
	* ACCUM NOT EQUAL 0000	3A1048
	•	3A1048
2070 0 0222	* 25 435/ 400 050000055555	3A1049
3070 0 0322	DC A2C4 AND-MEMORY#FFFF * 0000 N/A N/A N/A N/A	3A1049
	* 0000 N/A N/A N/A N/A N/A * 0000 N/A N/A N/A N/A N/A	3A1049
	* ACCUM NOT EQUAL 0000	3A1049 3A1049
	*	3A1049
	*	3A1049
3071 0 032C	OC A2C8 AND-MEMORY#0000	3A1049
	* FFFF N/A N/A N/A N/A	3A1049
	* 000C N/A N/A N/A N/A	3A1049
	* ACCUM NOT EQUAL 0000	3A1050
	*	3A1050
	*	3A1050
3072 0 0336	OC AZCC AND-MEMORY#FFFF	3A1050
	* FFFF N/A N/A N/A N/A N/A * FFFF N/A N/A N/A N/A	3A1050
	* FFFF N/A N/A N/A N/A * ACCUM NOT EQUAL FFFF	3A1050 3A1050
	*	3A1050
	*	3A1050
3073 <b>0</b> 0344	DC A300 OR-MEMORY # 0000	3A1050
	* 0000 N/A N/A N/A N/A AFTER LDEOR	3A1051
	* 0000 N/A N/A N/A N/A AFTER EDR	3A1051
	* ACCUM NOT EQUAL DOOD	3A1051
	•	3A1051
	•	3A1051
3074 0 034E	OC A302 OR-MEMORY#FFFF	3A1051
	* 0000 N/A N/A N/A N/A N/A AFTER LD & OF * FFFF N/A N/A N/A N/A N/A AFTER EOR	3A1051
•	* ACCUM NOT EQUAL FFFF	3A1051
	*	3A1051
	*	3A1052
3075 <b>0</b> 0359	DC A304 OR-MEMORY#FFFF	3A1052
	* FFFF N/A N/A N/A N/A AFTER LD&OR	3A1052
	* FFFF N/A N/A N/A N/A AFTER EOR	3A1052
	* ACCUM NOT EQUAL FFFF	3A1052
	•	3A1052
3076 0 0367	* DC 42/0 BT5 1/	3A1052
9010 U V301	DC A340 RTE 16 * FFFF 0000 N/A N/A N/A N/A 8EFDRE RTE	3A1052 3A1052
	* 0000 FFFF N/A N/A N/A AFTER RTE	3A1052
	* ACCUM NOT EQUAL OOOO	3A1053
	*	3A1053
	•	3A1053
3077 0 0367	OC A340 RTE 16	3 <b>A1053</b>
	* 0000 FFFF N/A N/A N/A N/A 8EFORE RTE	3A1053
	* FFFF 0000 N/A N/A N/A AFTER RTE	3A1053
	* ACCUM NOT EQUAL FFFF	3A1053
	•	3A1053
3078 0 0380	* Dr 4200 CPT 22	3A1053 3A1053
2010 0 0200	DC A380 SRT 32 * 8000 N/A N/A N/A N/A 8EFORE SRT	3A1055
	* 8000 N/A N/A N/A N/A N/A 8EFORE SRT  * FFFF FFFF N/A N/A N/A AFTER SRT	3A1054
	* ACCUM NOT EQUAL FFFF	3A1054
	*	3A1054
	*	3A1054
	•	3A1054

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	**********************	**3A105460
ADDRESS	*	3A105470
OF	*	3A105480
8-REG ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A105490
***********	*************	
	*	3A105510
3079 0 0380	OC A380 SRT 32 & RTE 16	3A105520
	* 8000 N/A N/A N/A N/A BEFORE SRT	3A105530
	* FFFF FFFF N/A N/A N/A N/A AFTER SRTERT	
	* ACCUM NOT EQUAL FFFF-INDICATING Q REG FAILED	3A105550 3A105560
	*	3A105570
	* OC A384 SRT 32	3A105580
307A 0 0395	OC A384 SRT 32 * 4000 N/A N/A N/A N/A AFTER LD	3A105590
	* 0000 0000 N/A N/A N/A N/A AFTER SRT	3A105600
	* ACCUM NOT EQUAL 0000	3A105610 -
	*	3A105620
	*	3A105630
3078 0 0395	DC A384 SRT 32 & RTE 16	3A105640
	* 4000 N/A N/A N/A N/A AFTER LO	3A105650
	* 0000 0000 N/A N/A N/A N/A AFTER SRT	3A105660
	* ACCUM NOT EQUAL 0000-INOICATING Q REG FAILED	3A105670 3A105680
	*	3A105690
	* OC A388 SRT 15	3A105700
307C U 03A8	OC A388 SRT 15 * 5555 N/A N/A N/A N/A AFTER LD	3A105710
	* 0000 AAAA N/A N/A N/A AFTER SRT	3A105720
	* ACCUM NOT EQUAL 0000	3A105730
	*	3A105740
	•	3A105750
3070 0 03A8	OC A388 SRT 15 & RTE 16	3A105760
	* 5555 N/A N/A N/A N/A AFTER LD	3A105770
	* 0000 AAAA N/A N/A N/A AFTER SRT 1	
	* AAAA 0000 N/A. N/A N/A N/A AFTER RTE 1	
	* ACCUM NOT EQUAL AAAA-INOICATING Q REG FAILEO	3A105800 3A105810
1	*	3A105820
3079 0 0386	* OC A38C SERIES OF SRTS-30	3A105830
307E 0 03BC	* *TOTAL SHIFTS	3A105840
	* 5555 N/A N/A N/A N/A AFTER LD	3A105850
	# 0000 0001 N/A N/A N/A N/A AFTER SRT&S	3A105860
	* ACCUM NOT EQUAL 0000	3A105870
	*	3A105880
	•	3A105890
307F 0 038C	DC A38C SERIES OF SRTS-30	3A105900
	* *TOTAL SHIFTS &	3A105910
	* *RTE 16	3A105920 3A105930
	* 5555 N/A N/A N/A N/A N/A AFTER LD * 0000 0001 N/A N/A N/A N/A AFTER SRT@S	
	* 0000 0001 N/A N/A N/A N/A AFTER SRT#S  * 0001 0000 N/A N/A N/A N/A AFTER RTE 1	
	* ACCUM NOT EQUAL ODOI-INDICATING Q REG FAILED	3A105960
	*	3A105970
	*	3 <b>A105980</b>
3080 0 03DC	DC A3CO RTE 15	3A105990
	* 5555 AAAA N/A N/A N/A AFTER LOGS	3A106000
	* 5554 AAAB N/A N/A N/A AFTER RTE 1	
	* ACCUM NOT EQUAL 5554 - RTE 15 Q TO A FAILEO	3A106020
	*	3A106030
7001 0 0305	* OC 43CO PTC 15 C PTC 14	3A106040 3A106050
3081 0 030C	OC A3CO RTE 15 & RTE 16 * 5555 AAAA N/A N/A N/A AFTER LOWS	3A106050
	* 5555 AAAA N/A N/A N/A N/A AFTER LO@S * 5554 AAAB N/A N/A N/A N/A AFTER RTE 1	• • • • • • • •
	* AAAB 5554 N/A N/A N/A N/A AFTER RTE 1	
	* ACCUM NOT EQUAL AAAB-INOICATING Q REG FAILED	3A106090
	*	3A106100
	•	3A106110
	*	3 <b>A1061</b> 20
	*	3A106130

AODRESS	*	3A106150
OF	*	3A106160
B-REG ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A106170
	**************************************	
3082 0 <b>0</b> 3F3	DC A3C4 SERIES OF RTES-31 * **TOTAL SHIFTS	3A106190
	* ************************************	3A106200 3A106210
	* 0001 0000 N/A N/A N/A N/A AFTER RTEAS	34106220
	* ACCUM NOT FOUAL 0001	3A106230
	*	3A106240
	*	3A106250
3083 O 03F3	DC A3C4 SERIES OF RTES+31	3A106260
	* *TOTAL SHIFTS	3A106270
	*	3A106280
	* 0000 8000 N/A N/A N/A N/A AFTER LO * 0001 0000 N/A N/A N/A N/A AFTER RTE@S	3A106290 3A106300
	* 0000 0001 N/A N/A N/A N/A AFTER RTE 16	3A106310
	* ACCUM NOT EQUAL 0000-INDICATING Q REG FAILED	3A106320
	*	3A106330
	•	3A106340
3084 0 0412	OC A400 SLA 16	3A106350
	* FFFF FFFF N/A N/A N/A AFTER LO	3A106360
	* 0000 FFFF N/A N/A N/A AFTER SLA	3A106370
	* ACCUM NOT EQUAL 0000	3A1063B0
	* *	3A106390 3A106400
2005 0 0412		3A106410
3085 0 0412	OC A400 SLA 16 * FFFF FFFF N/A N/A N/A DFF AFTER LO	3A106420
	* 0000 FFFF N/A N/A N/A C AFTER SLA	3A106430
	* CARRY NOT SET	3A106440
	*	3A106450
	* \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	3A106460
3086 0 0412	OC A400 SLA 16 & RTE 16	3A106470
	* FFFF FFFF N/A N/A N/A AFTER LD	3A106480
	* 0000 FFFF N/A N/A N/A N/A AFTER SLA	3A106490
	* FFFF 0000 N/A N/A N/A N/A N/A-AFTER RTE 16 * ACCUM NDT EQUAL FFFF-INDICATING O REG FAILEO	3A106500 3A106510
	* ACCOM NOT EQUAL FITT - INDICATING O NEG TATECO	3A106520
		3A106530
3087 0 0433	OC A408 SLA 16	3A106540
	* 0001 0000 N/A N/A N/A N/A AFTER LD	3A106550
	* 0000 0000 N/A N/A N/A N/A AFTERSLA	3A106560
	* ACCUM NOT EQUAL 0000	3A106570
	*	3A106580 3A106590
3088 0 0433	* OC A408 SLA 16	3A106600
3088 0 0433	* 0001 0000 N/A N/A N/A C AFTER LO	3A106610
	* 0000 0000 N/A N/A N/A C AFTER SLA	3A106620
	* CARRY NOT SET	3A106630
	*	3A106640
	*	3A106650
3089 0 0433	OC A408 SLA 16 & RTE 16	3A106660
	* 0001 0000 N/A N/A N/A N/A AFTER LO	3A106670
	* 0000 0000 N/A N/A N/A N/A AFTER SLA * 0000 0000 N/A N/A N/A N/A AFTER RTE 16	3A106680 3A106690
	* 0000 0000 N/A N/A N/A N/A AFTER RTE 16  * ACCUM NOT EQUAL 0000-INDICATING Q REG FAILED	3A106700
	* ACCOM NOT EGOAL GOOD-INGICATING & REG TATEED	3A106710
	*	3A106720
308A 0 0453	DC 8400 SLA 1	3A106730
<del>-</del>	* AAAA 0000 N/A N/A N/A N/A AFTER LO	3A106740
	* 5554 0000 N/A N/A N/A N/A AFTER SLA	3A106750
	* ACCUM NOT EQUAL 5554	3A106760
	*	3A106770 3A106780
	*	3A106790
	*	3A106800
	*	3A106810
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	************************	
AOORESS	•	3A106830
OF B-REG ROUTINE	* * A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A106840 3A106850
************		
3088 0 0453	OC 8400 SLA 1	3A106B70
	* AAAA 0000 N/A N/A N/A C	3A106B80
	* 5554 0000 N/A N/A N/A C	3A106890
	* CARRY NOT SET	3A106900
	*	3A106910 3A106920
308C 0 0453	OC 8400 SLA 1 & RTE 16	3A106930
3000 0 0 133	* AAAA 0000 N/A N/A N/A N/A	3A106940
	* 5554 0000 N/A N/A N/A N/A	3A106950
	* 0000 5554 N/A N/A N/A AFTER RTE	3A106960
	* ACCUM NOT EQUAL OOOO-INDICATING Q REG FAILEO	3A106970
	*	3A10698 <b>0</b> 3A106990
3080 0 0471	OC 8406 SLA 1	3A107000
•	* 5555 0000 N/A N/A N/A N/A AFTER LO	3A107010
	* AAAA 0000 N/A N/A N/A N/A AFTER SLA	3A107020
	* ACCUM NOT EQUAL AAAA	3A107030
	•	3A107040
308E 0 0471	* OC 8406 SLA 1	3A107050 3A107060
3082 0 0471	* 5555 0000 N/A N/A N/A C AFTER LO	3A107070
	* AAAA OCOO N/A N/A N/A OFF AFTER SLA	3A107080
	* CARRY SET-SHOULD BE CLEAR	3A107090
	•	3A107100
2085 0 0471	*	3A107110
308F 0 0471	OC 8406 SLA 1 & RTE 16 * 5555 0000 N/A N/A N/A N/A AFTER LO	3A107120 3A107130
	* AAAA 0000 N/A N/A N/A N/A AFTER SLA	3A107140
	* 0000 AAAA N/A N/A N/A AFTER RTE	3A107150
	* ACCUM NOT EQUAL 0000-INDICATING Q REG FAILED	3A107160
	*	3A107170 /
3090 0 <b>0490</b>	DC 840A SERIES OF SLAS-16	3A107180 3A107190
3070 0 0-70	* *TOTAL SHIFTS	3A107200
	* 0001 0000 N/A N/A N/A N/A AFTER SLA 0	3A107210
	* 0000 0000 N/A N/A N/A AFTER SLADS	3A107220,
	* ACCUM NOT EQUAL 0000	3A107230
	*	3A107240 3A107250
3091 0 0490	OC 840A SERIES OF SLAS-16	3A107260
	* *TOTAL SHIFTS	3A107270
	* 0001 0000 N/A N/A N/A C AFTER SLA 0	3A107280
	* 0000 0000 N/A N/A N/A C AFTER SLADS	3A107290
	* CARRY NOT SET	3A107300
	*	3A107310 3A107320
3092 0 0490	DC 840A SERIES OF SLAS-16	3A107320
3072 0 0470	* *TOTAL SHIFTS &	3A107340
	* *RTE 16	3A107350
	* 0001 0000 N/A N/A N/A N/A AFTER SLA 0	3A107360
	* 0000 0000 N/A N/A N/A AFTER SLADS * 0000 0000 N/A N/A N/A AFTER BTE 16	3A107370
	* 0000 0000 N/A N/A N/A N/A AFTER RTE 16 * ACC NOT EQUAL 0000-INDICATING Q REG FAILEO	3A107380 3A107390
	# ACC NOT EQUAL COOD-INGICATING & REG PAILED	3A107400
	•	3A107410
3093 0 0480	OC A440 SLT 32	3A107420
	* 0000 0001 N/A N/A N/A AFTER LO	3A107430
	* 0000 0000 N/A N/A N/A N/A AFTER SLT 32 * ACCUM NOT EQUAL 0000	3A107440 3A107450
	* ACCOUNTS ENGAGE WOOD	3A107450
	•	3A107470
	•	3A107480
	•	3A107490

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AODRECC	•	
AODRESS		3A107510
OF ACCUSE	* * * * * * * * * * * * * * * * * * *	3A107520
8-REG ROUTINE		TATUS 3A107530
**************		******************************
3094 0 048D	OC A440 SLT 32	3A107550
		N/A AFTER LO 3A107560
	+ 0000 0000 N/A N/A N/A	C AFTER SLT 32 3A107570
	* CARRY NOT SET	3A107580
	•	3A107590
	•	3A107600
3095 0 0480	OC A440 SLT 32 & 1	RTE 16 3A107610
	* 0000   0001	AFTER LO 3A107620
	* 0000   0000	AFTER SLT 32 3A107630
	* 0000 0000	AFTER RTE 16 3A107640
	* ACCUM NOT EQUAL OCCO-INCICATING	
	* ACCOM NOT EVORE COOC-INCICATING	3A107660
	· ·	
2004 0 0404	*	3A107670
3096 0 04DA	OC A444 SLT 16 ,	3A107680
		N/A AFTER LO 3A107690
	* FFFF 0000 N/A N/A N/A	N/A AFTER SLT 16 3A107700
	* ACCUM NOT EQUAL FFFF	3A107710
	•	3A107720
	*	3A107730
3097 0 040A	OC A444 SLT 16	3A107740
		N/A AFTER LO 3A107750
	* FFFF 0000 N/A N/A N/A	OFF AFTER SLT 16 3A107760
	* CARRY ON SHOULD NOT BE	3A107770
	*	3A107780
	•	3A107790
3098 0 04DA	OC A444 SLT 16 &	
3098 U U4DA		
	-	
		N/A AFTER SLT 16 3A107820
		N/A AFTER RTE 16 3A107830
	* ACCUM NOT EQUAL 0000-INDICATING	
	•	3A107850
	•	3A107860
3099 0 04F9	OC A44A SLT 15	3A107870
	* 0000 5555 N/A N/A N/A	N/A AFTER LO 3A107880
	* 2AAA 8000 N/A N/A N/A	N/A AFTER SLT 15 3A107B90
	* ACCUM NOT EQUAL ZAAA	3A107900
	•	3A107910
	•	3A107920
309A 0 04F9	OC A44A SLT 15	3A107930
30/2 0 041/		N/A AFTER LO 3A10794
		OFF AFTER SLT 15 3A107950
	* CARRY SET-SHOULO NOT BE	3A107960
	•	3A107970
	*	3A10798
3098 0 04F9	OC A44A SLT 15 E	
	* 0000 5555 N/A N/A N/A	N/A AFTER LO 3A10B000
	* 2AAA   8000   N/A   N/A   N/A	N/A AFTER SLT 15 3A10B010
	* 8000 2AAA N/A N/A N/A	N/A AFTER RTE 16 3A108020
	* ACCUM NOT EQUAL 8000-INDICATING	Q REG FAILEO 3A10B030
	*	3A108044
	*	3A10B050
309C 0 0519	OC 8440 SERIES OF	
30,0 0 031,	* *TOTAL SH	
		N/A AFTER LO 3A108080
	* ACCUM NOT EQUAL 0000	3A108166
	•	3A108110
	*	3A10B120
		SLTS-32 3A10B130
309 <b>0 0</b> 0519	OC 8440 SERIES OF	
3090 0 0519	OC 8440 SERIES OF * *TOTAL SH	
3090 0 0519	* *TOTAL SH	
3090 0 0519	* *TOTAL SH	IFTS 3A10B146

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	*******************************	*3A108180
ADDRESS	•	3A108190
. OF	*	3A108200
	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A108210
*	OC 8440 SERIES OF SLTS-32	3A108230
309E 0 0519	* *10TAL SHIFTS &	3A108240
	* *RTE 16	3A108250
	# 0000 0001 N/A N/A N/A N/A AFTER LO	3A108260
	* 0000 0000 N/A N/A N/A N/A AFTER SLTDS	3A108270
	* 0000 0000 N/A N/A N/A N/A AFTER RTE 16	3A108280
	* ACCUM NOT EQUAL 0000-INDICATING Q REG FAILED	3A108290
	•	3A108300
	*	3A108310
309F 0 0542	OC A480 STO	3A108320
	* 0000 N/A N/A N/A N/A N/A * STORING 0000 INTO A STORAGE LOCATION	3A108330
	* CONTAINING FFFF OIO NOT RETURN 0000 WHEN	3A108340 3A108350
	* RELOADED IN THE ACCUM	3A108360
	*	3A108370
	*	3A108380
30A0 0 054E	OC A482 STO	3A108390
	* FFFF N/A N/A N/A N/A	3A108400
	* STORING FFFF INTO A STORAGE LOCATION	3A108410
	* CONTAINING 0000 010 NOT RETURN FFFF WHEN	3A108420
	* RELOADED IN THE ACCUM *	3A108430
	*	3A108440 3A108450
30A1 0 055F	OC A4CO STS	3A108460
30A1 0 0331	* N/A N/A N/A N/A ON AFTER LOS 3	3A108470
	* N/A N/A N/A N/A N/A OFF AFTER LOS O	3A108480
	* N/A N/A N/A N/A N/A OFF AFTER STS	3A108490
	* LOS O FAILEO TO RESET CARRY AND UVERFLOW OR	3A108500
	* STS FAILEO TO STORE INDICATORS.	3A108510
	*	3 <b>A108</b> 520
	•	3A108530
30A2 0 056E	OC A4C2 STS	3A108540
	* N/A N/A N/A N/A N/A CEO AFTER LOS	3A108550
	* N/A N/A N/A N/A OFF AFTER STS  * STS 010 NOT CLEAR CARRY	3A108560 3A108570
	+ 313 UIU NUI CLEAK CARRY	3A108580
	*	3A108590
30A3 0 0568	OC A4C2 STS CK ACC	3A108600
	* INITIALLY ACC HAS CORE LOCATION OF	3A108610
	* SYMBOLIC LABEL A4C2	3A108620
	* ACC OLSTROYED AFTER STS	3A108630
	•	3A108640
2044 0 0540	*	3A108650
30A4 0 0568	OC A4C2 STS  * N/A N/A N/A N/A N/A CEO AFTER LOS	3A108660 3A108670
	* N/A N/A N/A N/A N/A OFF AFTER STS	3A108680
	* STS 010 NOT CLEAR OVERFLOW	3A108690
	*	3A108700
	*	3A108710
30A5 0 0568	OC A4C2 STS	3A108720
	* N/A BEFORE LO	3A108730
	* 0003 AFTER LO	3A108740
	* STS DF 0003 INTO A STORAGE LOCATION * CONTAINING 0000 DID NOT RETURN 0003 WHEN	3A108750
	* RELDAGED IN THE ACCUM	3A108760 3A108770
	* KELUAUEU IN THE ACCUM	3A108780
3046 0 0590	OC A4CB STS	3A108790
<del></del>	* N/A N/A N/A N/A N/A CEO AFTER LOS 3	3A108800
	* N/A N/A N/A N/A N/A C AFTER LOS 2	3A108810
	* N/A N/A N/A N/A OFF AFTER STS	34108820
	* 0002 N/A N/A N/A DFF AFTER LO	3A108830
	* STS FAILED TO STORE OR LOS 2 FAILED TO RESET	3A108840
	* OVERFLOM.	3A108850

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AOORESS OF	* * * * * * * * * * * * * * * * * * *	3A 1088
B-REG ROUTINE		3A1088
	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS ********************************	3A1088
30A7 0 0590	DC A4CB STS	3A1C89
	* N/A N/A N/A N/A N/A CED AFTER LOS	
	* N/A N/A N/A N/A N/A C AFTER LOS	3A1089
	* N/A N/A N/A N/A N/A OFF AFTER STS	3A1089
	* STS 010 NOT CLEAR CARRY OR DVERFLOW IF OVERFLO	W 3A1089
	* HAO NOT BEEN RESET BY LOS 2	3A1089
	*	3A1089
30A8 0 05A7	OC A4CC STS	341089
	* N/A N/A N/A N/A N/A CEO AFTER LOS	
	* N/A N/A N/A N/A N/A D AFTER LOS 1	
	* N/A N/A N/A N/A DFF AFTER STS	3A1090
	* LOS 1 FAILEO, 1F ACCUMULATOR IS OTHER THAN /00	
	*	3A1090
30A9 0 05A7	* OC A4CC STS	3A1090
3047 0 0341		3A1090 3 3A1090
	* N/A N/A N/A N/A N/A CEO AFTER LOS * N/A N/A N/A N/A N/A O AFTER LOS 1	
	* N/A N/A N/A N/A N/A OFF AFTER STS	3A1090
	* STS FAILED TO RESET INDICATORS.	3A1090
	*	3A1091
	•	3A1091
	<b>*</b>	3A1091
30AA 0 05C4	OC A500 BSC+DEEZC	3A1091
	* 8001 N/A N/A N/A N/A CED	3A1091
	* 8SC SKIPPEO-SHOULD NOT HAVE	3A1091
	•	3A1091
	•	3A 1091
3/0A8 0 05CF	OC A502 8SC+-OCE	3A1091
<i>:</i>	* 0000 N/A N/A N/A N/A CED	3A1091
	* 8SC SKIPPEO-SHOULO NOT HAVE	3A1092
	•	3A1092
	•	341092
30AC 0 050A	OC A504 8SC+D-E	3A1092
	* 8000 N/A N/A N/A CEO	3A1092
	* BSC FAILED TO SKIP	3A1092
	*	-3A1092
3040 0 0504		3A1092
30A0 0 050A	OC A504 8SC+O * 8000 N/A N/A N/A C	3A1092 3A1092
	* 8000 N/A N/A N/A C * 8SC FAILEO TO CLEAR OVERFLOW	3A1093
	* BJC FAILED TO CLEAR OVERTEOR	3A1093
30AE 0 05F1	DC A508 BSC+CEZ	3A1093
3022 0 03. 1	* 0001 N/A N/A N/A OFF	3A1093
	* 8SC FAILED TO SKIP	3A109
	*	3A1093
	•	3A109
30AF 0 05FC	OC A50A BSC. EOCE LONG FORM	3A109
	* 8001 N/A N/A N/A N/A CED	3A109
	* 8SC OIO NOT BRANCH - SHOULO HAVE	3A1093
	•	3A1094
	•	3A1094
3080 0 05FC	OC ASOA 8SC, COCE LONG FORM	3A1094
	* 8001 N/A N/A N/A N/A CED	3A1094
	* BSC SKIPPEO-SHOULO BRANCH	3A1094
	•	3A1094
	•	3A1094
3081 0 0619	OC A5OC BSC,-Z LONG FORM	3A1094
	* 0004 N/A N/A N/A CED	3A1094
	* 8SC DIO NOT BRANCH - SHOULO HAVE	3A1094
	•	3A1095
	•	3A109
3082 0 0619	OC ASOC BSCZ LONG FORM	3A1095
	* 0004 N/A N/A N/A CEO	3A1095

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	1	BSC SKIPPED-SHDULO BRANCH	3A109540
******	*********	****************	*3A109550
	ADDRESS 4	<b>k</b>	3A109560
	DF	•	3A109570
B-REG	ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A1095B0
******	********	*************	*3A109590
	1	•	34109600
	1	*	3A109610 3A109620
3083 0		DC A50E BSC, &EOCZ LONG	3A109620
		# #FORM # ROO1 N/A N/A N/A C&D	3A109640
		# BOO1 N/A N/A N/A N/A CED # BSC BRANCHEO-SHOULD NOT	3A109650
		# BSC BRANCHED-SHOOLD NOT	3A109660
	·		3A109670
3084 0	062D	OC ASOE BSC. EEOCZ LONG	3A1096B0
302 . 0		* *FORM	3A109690
		* BOOL N/A N/A N/A CEO	3A109700
		* BSC SKIPPED-SHOULD NOT	3A1U9710
	1		3A109720
		•	3A109730
30B5 0	0641	OC 8500 BSC+€	3A109740
		* 0001 N/A N/A N/A N/A CEO	3A109750 3A109760
		* BSC ON PLUS CLEARED THE OVERFLOW F-F	3A109770
		•	34109780
2084 0		* OC 8500 BSC+&	3A109790
30B6 0		* 0001 N/A N/A N/A N/A	3A109B00
		* BSC FAILED TO SKIP	3A109B10
		*	3A109B20
		•	3A109B30
30B7 0	0660	OC A540 BSI, ECOEZ LONG	3A109B40
		* *FORM	3A109850
		# BOO1 N/A N/A N/A LEO	3A109B60
		* BSI 010 NOT BRANCH - SHOULD HAVE	3A109B70 3A109BB0
		*	3A109B90
		OC A540 BSI, ECOEZ LONG	3A109900
30B8 0	0560	OC A540 BSI,ECOEZ LONG * *FORM	3A109910
		* 8001 N/A N/A N/A C&O	3A109920
		* BSI SKIPPED-SHOULO BRANCH	3A109930
		*	3A109940
		•	3A109950
30B9 0	0660	DC A540 BSI, ECO&Z LONG	3A109960
		* *FORM	3A109970
		* 8001 N/A N/A N/A CEO AFTER LDS	3A109980
		* BOOL N/A N/A N/A C AFTER BSI	3A109990 3A110000
		* BSI DID NOT CLEAR OVERFLOW	3A110010
			3A110020
2004.0	04.01	OC A544 BSI,Z- LONG FORM	3A110030
30BA 0	0001	* 0002 N/A N/A N/A N/A	3A110040
		* BSI DIO NDT BRANCH - SHOULD HAVE	3A110050
		*	3A110060
		•	3A110070
30BB 0	0681	DC A544 BSI+Z- LONG FORM	3A110080
		* 0002 N/A N/A N/A N/A	3A110090
		* BSI SKIPPED-SHOULO BRANCH	3A110100
		•	3A110110 3A110120
20PC 0	0404	DC A546 BSI+Z LONG FORM	3A110120
30BC 0	U 070	# 0000 N/A N/A N/A N/A	3A110140
		* BSI BRANCHEO-SHOULD NOT	3A110150
		*	3A110160
		*	3A110170
30BD 0	0696	OC A546 BSI, Z LONG FORM	3A1101B0
		* 0000 N/A N/A N/A N/A	3A110190
		* BSI SKIPPED-SHOULD NOT U	3A110200
		•	3A110210

*****	*******	*************************************	
	ADDRESS	•	3A11024
	DF	*	3A11025
3-REG	ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A11026
		+++++++++++++++++++++++++++++++++++++	
308E 0	06A9	DC A548 BSI+- LONG FORM	3A11028
		* 8001 N/A N/A N/A N/A N/A	3A11029
		* BSI SKIPPED-SHDULD NDT	3A11030
		•	3A11031
		* DC A540 DC1 4000 F00M	3A11032
BOBF O	06A9	DC A548 BSI,- LONG FORM	3A11033
		* 8001 N/A N/A N/A N/A N/A  * BSI BRANCHEO-SHDULD NDT	3A11034 3A11035
		* BSI BRANCHEO-SHDULD NDT	3A11035
	A	OC A54A BSI, & LDNG FDRM	3A11037
30CO 0	OPPR	+ 0002 N/A N/A N/A N/A N/A	3A11037
		* 8SI SKIPPED-SHOULD NOT	3A11039
		* 631 SkiffE0-Shooto Not	3A11040
		•	3A11041
30C1 0	DARR	DC A54A BSI.E LONG FDRM	3A11042
JUC 1 U	0000	# 0002 N/A N/A N/A N/A	3A11043
		* BSI BRANCHED-SHOULD NDT	3A11044
		*	3A11045
		•	3A11046
30C2 0	0600	DC A54C BSI,E LONG FORM	3A11047
		# 0002 N/A N/A N/A N/A N/A	3A1104B
		* BSI SKIPPEO-SHOULD NDT	3A11049
		*	3A11050
		•	3A11051
30C3 0	0600	DC A54C BSI,E LONG FORM	3A11052
		* 0002 N/A N/A N/A N/A	3A11053
		* BSI BRANCHED-SHOULO NDT	3A11054
		*	3A11055
	•	•	3A11056
30C4 0	06DF	OC A54E BSI-C LONG FORM	3A11057
		* N/A N/A N/A N/A C	3A11058
		* BSI SKIPPED-SHOULD NOT	3A11059
		•	3A11060
		* DC 4545 DS1 C 10MC 500M	3A11061 3A11062
3 <b>0</b> C5 0	060 F	DC A54E BSI,C LONG FORM	3A11063
		* N/A N/A N/A N/A C	3A1106
		* BSI BRANCHED SHOULD NOT	3A1106
			3A11066
	0453		3A11067
30C6 0	0611	DC A54F BSI+O LONG FORM  * N/A N/A N/A N/A D	3A1106
		* BSI SKIPPEO-SHOULO NDT	3A11069
		# B31 3K1FFE0-3H00E0 H01	3A11070
		•	3A1107
30C7 0	06F1	OC A54F BSI,O LONG FORM	3A1107
3001 0	00.1	* N/A N/A N/A N/A O	3A1107
		* BSI BRANCHED-SHOULD NOT	3A11074
		*	3A1107
		•	3A1107
30CB 0	0704	DC A580 LDD	3A11077
	-	* 0000 0000 N/A N/A N/A N/A	3A1107
		* ACCUM NOT EQUAL 0000	3A11079
		•	3A11080
		•	3A1108
30C9 0	0704	DC A580 LDD & RTE 16	3A1108
		# 0000 0000 N/A N/A N/A N/A AFTER LOO	3A1108
		* 0000 0000 N/A N/A N/A N/A AFTER RTE 16	3A1108
		* ACCUM NOT EQUAL DODO-INDICATING Q REG FAILED	3A110B
		<b>*</b>	3A110B
		•	3A110B
30CA 0	0717	DC A584 L00	3A110B
		+ FFFF FFFF N/A N/A N/A N/A	3A110B

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		* ACCUM NOT EQUAL FFFF	3 <b>A</b> 110900
*****	******	*****************	
	ADORESS		3A110920
8-REG	OF ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A110930
		**************************************	3A110940
30C8 0		OC A584 LOO & RTE 16	3A110960
	••••	* FFFF FFFF N/A N/A N/A N/A AFTER LOO	3A110970
		* FFFF FFFF N/A N/A N/A N/A AFTER RTE 16	3A110980
		* ACCUM NOT EQUAL FFFF-INOICATING Q REG FAILEO	3A110990
		*	3A111000
		•	3A111010
30CC 0	0728	OC A588 LOO 000 A00RESS	3A111020
		* 0000 0000 N/A N/A N/A N/A * ACCUM NOT EQUAL 0000	3A111030
		+ ACCOM NOT EQUAL DOOD	3A111040
		•	3A111050 3A111060
30CO 0	0728	OC A588 LOD-DOD ADDRESS	3/111070
		* * & RTE 16	3A111080
		* 0000 0000 N/A N/A N/A N/A AFTER LOO	3A111090
		* 0000 0000 N.'A N/A N/A N/A AFTER RTE 16	3A111100
		* ACCUM NOT EQUAL 0000-INOICATING Q REG FAILEO	3A111110
			3A111120
2005 0	0730	*	3A111130
30CE 0	0730	OC A5CO STO * 0000 0000 N/A N/A N/A N/A	3A111140
		* 0000 0000 N/A N/A N/A N/A  * USING STD-ACCUM NOT STORED IN LOCATION FA	3A111150 3A111160
		*	3A111170
		*O	3A111180
30CF 0	0730	OC A5CO STO	3A111190
		* 0000 0000 N/A N/A N/A N/A	3A111200
		* USING STO-Q REG NOT STOREO IN LOCATION EAGI	3A111210
		*	3A111220
		*	3A111230
3000 0	0751	OC A5C4 STO  * FFFF FFFF N/A N/A N/A N/A	3A111240
		* FFFF FFFF N/A N/A N/A N/A * USING STD-ACCUM NOT STOREO IN LOCATION EA	3A111250 3A111260
		* CSING SID-ACCOM NOT STOKED IN EDUCATION EX	3A111270
		•	3A111280
3001 0	0751	OC A5C4 STO	3A111290
		* FFFF FFFF N/A N/A N/A N/A	3A111300
		* USING STO-Q REG NOT STOREO IN LOCATION EASI	3A111310
		•	3A111320
2002.0	0744	* 00 4500 070 000 400000	3A111330
3002 0	UIOA	OC A5CB STO ODO AORESS * 0000 0000 N/A N/A N/A N/A	3A111340 3A111350
		* STO USING DOD ADDRESS-ACCUM NOT STORED IN EA	3A111360
		*	3A111370
		•	3A111380
3003 0	076A	OC A5C8 STO-OOO AOORESS	3A111390
		* 0000 0000 N/A N/A N/A N/A	3A111400
		* SYO USING OOD AOORESS-ACCUM NOT STOREO	3A111410
		* IN EAG1	3A111420
			3A111430
3004 0	078F	OC A600 LOX 1	3A111440 3A111450
		* N/A N/A N/A N/A N/A	3A111460
		* TAG REG BIT 7 WILL NOT SET	3A111470
		•	3A111480
2005 5	0700	*	3A111490
30 <b>0</b> 5 0	0/98	OC A602 LOX 2	3A111500
		* N/A N/A N/A N/A N/A N/A * TAC DEC DIT 6 HILL NOT SET	3A111510
		* TAG REG 81T 6 WILL NOT SET *	3A111520
			3A111530 3A111540
30D6 0	07A1	OC A604 LOX 1	3A111550
		* N/A N/A 0000 N/A N/A N/A	3A111560
		* INDEX REG 1 NOT EQUAL 0000	3A111570
	*		

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*****	*********	******************	
	ADORESS	*	3A11160
-REG	OF BOUTINE	# # 050 0 050 vp 1 vp 2 vp 3 attitus	3A11161
	ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS ************************************	3A11162
007 0			
,00. 0	0170	DC A606 LOX 2 * N/A N/A N/A 0000 N/A N/A	3A11164
		* INOEX REG 2 NOT EQUAL 0000	3A11165
		* INCLARED 2 NOT ENOUGH DOOD	3A11166
		*	3A11167 3A11168
0 8008	07BA	DC A608 LOX 3	3A11169
		* N/A N/A N/A N/A 0000 N/A	3A11170
		* INDEX REG 3 NOT EQUAL 0000	3A11171
		•	3A11172
		•	3A11173
0 900	07C 7	OC A60A LOX 1	3A11174
		* N/A N/A FFFF N/A N/A N/A	3A11175
		* INOEX REG 1 NOT EQUAL FFFF	3A11176
		•	3A11177
		*	3A11178
300A 0	0704	OC A6OC LOX 2  * N/A N/A D/A EFFE N/A N/A	3A11179
		10/0 10/0 10/0 10/0 10/0	3A11180
		* INDEX REG 2 NOT EQUAL FFFF *	3A11181
		•	3A11182
00B 0	07F 1	OC AGGE LOX 3	3A11183 3A11184
		* N/A N/A N/A FFFF N/A	3A11185
		* INOEX REG 3 NOT EQUAL FFFF	3A11186
		*	3A11187
		•	3A11188
ODC O	07EE	OC 8600 LOX 1 LONG FORM	3A11189
		* N/A N/A 0001 N/S N/A N/A	3A11190
		* INOEX REG 1 NUT EQUAL GOO1	3A11191
		•	3A11192
		*	3A11193
3000 O	07FC	OC B6O2 LOX 3 INO1RECT	3A11194
		* N/A N/A N/A FFFF N/A	3A11195
		* INOEX REG 3 NOT EQUAL FFFF	3A11196
		•	3A11197
300E 0	0010		3A11198
, OUE 0	0010	OC A640 STX * N/A N/A N/A N/A N/A	3A11199
		* N/A N/A N/A N/A N/A N/A  * STX WITH NO TAG OLD NOT STORE 1-CTR CORRECT	3A11200 3A11201
		*	3A11202
		•	3A11202
00F 0	0827	OC A642 STX 1	3A11204
		* N/A N/A 0000 N/A N/A N/A	3A11205
		* INDEX REG 1 WAS NOT STORED BY STX	3A11206
		•	3A11207
		•	3A11208
0E0 0	0834	OC A644 STX 2	3A11209
		* N/A	3A11210
		* INDEX REG 2 NOT STORED BY STX	3A11211
		•	3A11212
		•	3A11213
0E1 0	U841	OC A646 STX 3	3A11214
		* N/A N/A N/A N/A 0000 N/A	3A11215
		* 1NOEX REG 3 NOT STOREO BY STX	3A11216
		*	3A112170
062.0	0845		3A11218
0E2 0	U07E	OC A648 STX 1 * N/A N/A FFFF N/A N/A N/A	3A11219
			3A11220
		* 1NOEX REG 1 NOT STOREO BY STX	3A112210
		*	3A112226 3A112236
0E3 0	ORSC	OC A64A STX 2	3A11224
ULS U	0076	00 AUTA 31A 6	<b>シーエエビビサ!</b>

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		* INDEX REG 2 NOT STORED BY STX	3A112260
*****	*********	*****************	
	ADDRESS	*	3A112280
	OF	*	3A112290
B-REG	ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A112300
*****	*********	*********************	*3A112310
_		•	3A112320
30E4 0	086A	DC A64C STX 3	3A112330
		* N/A N/A N/A R/A FFFF N/A	3A112340
		* INDEX REG 3 NOT STOREO BY STX	3A112350
		•	3A112360 3A112370
30E5 0	OBDC	OC A680 ADD	3A112380
5525 5		* FFFF N/A N/A N/A C AFTER LOELOS	3A112390
		* FFFF N/A N/A N/A C AFTER A	3A112400
	•	* ADD FFFF & GOOD TURNED ON OVERFLOW	3A112410
		*	3A112420
			3A112430
<b>30</b> E6 0	O8DC	DC A680 A00	3A112440
		* FFFF N/A N/A N/A N/A AFTER LO	3A112450
		* FFFF N/A N/A N/A N/A AFTER A * ADD FFFF & DOOD FAILED TO FOUAL FFFF	3A112460
		* ADO FFFF & OOOO FAILEO TO EQUAL FFFF	3A112470 3A112480
			3A112490
30E7 0	08F1	OC A684 AOD	3A112500
		* FFFF N/A N/A N/A N/A OFF AFTER LDELOS	3A112510
		* 0000 N/A N/A N/A C AFTER A	3A112520
		* ADO FFFF & 0001 DID NOT TURN ON CARRY	3A112530
		•	3A112540
		•	3A112550
30E8 0	08F1	DC A684 ADO	3A112560
		* FFFF N/A N/A N/A N/A AFTER LD&LDS	3A112570
		* 0000 N/A N/A N/A N/A N/A AFTER A	3A112580
		* A00 FFFF & 0001 010 NOT EQUAL 0000	3A112590 3A112600
			3A112610
30E9 0	•	DC A688 ADO	3A112620
		* FFFF N/A N/A N/A N/A OFF AFTER LOGLDS	3A112630
	•	* FFFF N/A N/A N/A C AFTER A	3A112640
		* ADD FFFF & FFFF D10 NOT TURN ON CARRY	3A112650
		•	3A112660
		*	3A112670
30EA 0	0904	DC A688 AOD * FFFF N/A N/A N/A N/A AFTER LOGLDS	3A1126B0
		* FFFF N/A N/A N/A N/A N/A AFTER LOGLDS  * FFFF N/A N/A N/A N/A N/A AFTER A	3A112690 3A112700
		* AOD FFFF & FFFF D1D NOT EQUAL FFFE	3A112710
		*	3A112720
		*	3A112730
30E8 0	0918	OC A6BC ADO	3A112740
		* 4000 N/A N/A N/A DFF AFTER LO	3A112750
		* BOOO N/A N/A D AFTER A	3A112760
		* ADD 4000 & 4000 010 NOT TURN ON DVERFLOW	3A112770
		•	3A1127B0
3050 0	001.0	*	3A112790
30EC 0	0.31.9	OC A68C ADO * 4000 N/A N/A N/A N/A	3A112800
		* 4000 N/A N/A N/A N/A N/A * AOD 4000 & 4000 DID NDT EQUAL BOOD	3A112810 3A112820
		* AND 4000 & 4000 DID NO! EQUAL BOOD	3A112830
		•	3A112840
30ED 0	092C	OC 8680 ADD	3A112B50
		* 8000 N/A N/A N/A N/A AFTER LD	3A112860
		* 0000 N/A N/A N/A N/A AFTER A	3A112B70
		* ADD 8000 & 8000 NDT EQUAL 0000	3A1128B0
		*	3A112890
30EE 0		DC 8680 AD0	3A112900 -
JULE 0		* 8000 N/A N/A N/A DFF AFTER LD	3A112910 3A112920
		* 0000 N/A N/A N/A N/A DPF AFTER ED	3A112920

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		* ADD 8000 & 8000 DID NOT TURN ON OVERFLOW	3A112940
*****	********	**************************************	***3A112950
	ADDRESS	*	3A112960
	OF	*	3A112970
8-REG	ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS ************************************	3A112980
		*	3A113000
		•	3A113010
30EF 0	092C	DC 8680 AOD	3A113020
		* 8000 N/A N/A N/A N/A DFF AFTER LD	3A113030
		* 0000 N/A N/A N/A N/A CED AFTER A * ADD 8000 & 8000 DID NOT TURN ON CARRY	3A113040 3A113050
		*	3A113060
		•	3A113070
30F0 0	0954	DC A6CO LDX 1	3A113080
		* N/A N/A FFF4 N/A N/A N/A	3A113090
		* INDEX REG 1 WAS NOT LDAGED EQUAL FFF4 *	3A113100
		*	3A113110 3A113120
30F1 0	0954	OC A6CO LO 1	3A113130
		* N/A N/A FFF4 N/A N/A N/A	3A113140
		* A LOAD INSTR INDEXED BY INDEX REG 1	3A113150
		* LOADEO THE WRONG LOCATION	3A113160
		* *	3A113170 3A113180
30F2 0	096C	DC A6C2 > LOX 2	3A113190
		* N/A N/A N/A 0004 N/A N/A	3A113200
		* INDEX REG 2 NOT LOADED EQUAL 0004	3A113210
		•	3A113220
30F3 0	004.0	* 00 4402 10.2	3A113230
JUFJ U	0966	DC A6C2 LD 2 * N/A N/A N/A 0004 N/A N/A	3A113240 3A113250
		* A LDAD INSTR INGEXED BY INDEX REG 2	3A113260
		* LOADEO THE WRONG LOCATION	3A113270
		•	3A113280
		*	3A113290
30F4 0	0984	DC A6C4 LDX 3 * N/A N/A N/A 0000 N/A	3A113300 3A113310
		* INDEX REG 3 NOT LOAGED EQUAL GOOD	3A113310
		*	3A113330
		*	3A113340
30F5 0	0984	OC A6C4 LO 3	3A113350
		* N/A N/A N/A 0000 N/A	3A113360
		* A LOAO INSTR INDEXEO BY INDEX REG 3 * LOADED THE WRDNG LOCATION	3A113370 3A113380
		* FOWDER THE MUDNO FOUNTION	3A113390
		•	3A113400
30F6 0	0998	DC A6C6 LDX 3	3A113410
		* N/A N/A N/A N/A 0001 N/A	3A113420
		* INDEX REG 3 NOT EQUAL 0001	3A113430 3A113440
		•	3A113450
30F7 0	099B	OC A6C6 LO 3 LONG FORM	3A113460
		* N/A N/A N/A N/A 0001 N/A	3A113470
		* A LONG FORM LOAD INDEXED BY INDEX REG 3	3A113480
	-	* LOADEO THE WRONG LOCATION *	3A113490
		*	3A113500 3A113510
30F8 0	0983	DC A6CB LOX 3	3A113520
		* N/A N/A N/A N/A FFFF N/A	3A113530
		* INDEX REG 3 NDT EQUAL FFFF	3A113540
		*	3A113550
2050 0	0093	* DC A6C8 LD 3 INDIRECT	3A113560 3A113570
30F9 0	U703	DC A6C8 LD 3 INDIRECT * N/A N/A N/A N/A FFFF N/A	3A113580
		* AN INDIRECT LOAD INDEXED BY INDEX REG 3	3A113590
		* LOADED THE WRONG LOCATION	3A113600
		<b>*</b>	3A113610

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	*	3A11362D
ADDRESS	**********************	3A113640
0F	•	3A113650
8-REG ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A113660
	****************	
3DFA 0 0A38	DC A700 SU8	3A113680
	* OODO N/A N/A N/A N/A AFTER LD	3A113690
	* FFFF N/A N/A N/A N/A AFTER S	3A113700
	* SUB 0001 FORM ODOO OID NOT EQUAL FFFF	3A113710
	•	3A113720
3059 0 0439	* DC A700 SUB	3A113730 3A113740
30F8 0 0A38	DC A700 SUB * 000D N/A N/A N/A N/A OFF AFTER LD	3A113750
	* FFFF N/A N/A N/A N/A C AFTER S	3A113760
	* SUB ODD1 FROM DDDD DIO NOT SET CARRY	3A113770
	*	3A113789
	*	3A113790
3DFC D OA4F	DC A704 SUB	3A113800
	* OODD N/A N/A N/A N/A AFTER LD	3A113810
	* DDD1 N/A N/A N/A N/A N/A AFTER S * SUB FFFF FRDM DODO DIO NUT EQUAL ODDI	3A113820
	+ 208 LLLL LKOW DODO DIO MOI EMONT ODDI	3A113830 3A113840
	•	3A113850
3DFD O OA4F	DC A7D4 SU8	3A113860
	* 0000 N/A N/A N/A N/A DFF AFTER LD	3A113870
	* DOOL N/A N/A N/A C AFTER S	3A113880
	* SUB FFFF FROM 0000 DID NOT SET CARRY	3A113890
	*	3A113900
3055 0 0444	* OC 4700 CHO	3A113910
30FE D 0A66	DC A708 SUB - * 8000 N/A N/A N/A N/A AFTER LD	3A113920 3A113930
	* 7FFF N/A N/A N/A N/A N/A AFTER S	3A11394D
	* SUB 0001 FROM 8000 010 NOT EQUAL 7FFF	3A113950
	*	3A113960
		3A11397D
3DFF 0 0A66	DC A7D8 SUB	3A113980
	* 8DDO N/A N/A N/A N/A OFF AFTER LD	3A113990
	* ODD1 N/A N/A N/A N/A D AFTER CARRY	3A114000
	* AND DVERFLDW CONDITION HAD BEEN LDACED INTO  * ACCUMULATOR AS A NUMBER	3A114010 3A114020
	* SUB DOC1 FROM 8000 DID NOT TURN ON DVERFLOW	3A114030
	*	3A114040
	•	3A114050
31DD D DA7D	DC A70C SU8	3A114060
	* DOCD N/A N/A N/A N/A AFTER LD	3A114070
	* 8000 N/A N/A N/A N/A AFTER S	3A114080
	* SUB BDOD FROM DOOD DID NOT EQUAL BOOD	3A114090
	*	3A114100 3A114110
31D1 D 0A7D	DC A70C SUB	3A114120
	* DDOD N/A N/A N/A N/A OFF AFTER LD	3A114130
	* 8000 N/A N/A N/A N/A CED AFTER S	3A114140
	* SUB BOOD FROM 0000 OID NOT TURN ON DVERFLOW	3A114150
	•	3A114160
3102 D DA7D	* OC 470C CUB	3A114170
SIDE D DAID	DC A7DC SUB  * ODOD N/A N/A N/A OFF AFTER LD	3A114180
	* 8000 N/A N/A N/A N/A C&O AFTER S	3A114190 3A114200
	* SUB BOOD FROM OODD DID NOT TURN DN CARRY	3A114210
	*	3A114220
	*	3A114230
3103 D 0AA8	DC A74D A0-0000 000D	3A114240
	* FFFF FFFF N/A N/A N/A N/A AFTER LDD	3A114250
	* FFFF FFFF N/A N/A N/A AFTER AO	3A114260
	* ACCUM NOT EQUAL FFFF	3A114270
	* *	3A114280 3A114290
		JR11767U

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	ADDRESS	*************************	3A1143
	DF	•	3A1143
-REG	RDUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A1143
*****	********	*****************************	*=3A1143
104 D		DC A74D AD-00D0 D000	3A1143
		* FFFF FFFF N/A N/A N/A N/A AFTER ADD	3A1143
		* FFFF FFFF N/A N/A N/A N/A AFTER RTE	3A1143
		* Q REG NDT EQUAL FFFF	3A1143
		•	3A1144
		*	3A1144
105 0	OAA8	DC A74D AD-DDDD D0D0	3A1144
		* FFFF FFFF N/A N/A N/A OFF AFTER LDD	3A1144
		* FFFF FFFF N/A N/A N/A DFF AFTER RTE	3A1144
		* DVERFLOW SET SHOULD NOT BE	3A]144
		*	3A1144
1D6 O	0449		3A1144
100 0	UAAD	DC A74D AD-DDDD DDDD  * FFFF FFFF N/A N/A N/A DFF AFTER LDD	3A1144
		* FFFF FFFF N/A N/A N/A DFF AFTER RTE	3A1144 3A1145
		* CARRY SET-SHOULD NOT BE	3A1145
		* CANNI SEL-SHOOFD HAT BE	3A1145
		•	3A1145
107 0	OAD 7	DC A746 AD-FFFF FFFF	3A1145
		* DODO 0001 N/A N/A N/A N/A AFTER LDD	3A1145
		* 0000 DDDO N/A N/A N/A N/A AFTER AD	3A1145
		* DVERFLOW SET- SHOULD NOT BE	3A1145
		<b>*</b>	3A1145
		*	3A1145
1D8 0	OAD 7	DC A746 AD-FFFF FFFF	3A1146
		* ODOO ODO1 N/A N/A N/A N/A AFTER LDD	3A1146
		* DDOD 0000 N/A N/A N/A N/A AFTER AD	3A1146
		* Q REG NOT EQUAL 0000	3A1146
		*	3A1146
		*	3A1146
109 0	DAD7	DC A746 AD-FFFF FFFF	3A1146
		* DDOO DOOL N/A N/A N/A OFF AFTER LUD	3A1146
		* ODOO ODDD N/A N/A N/A C AFTER AD	3A1146
		* CARRY NOT SET- SHOULD BE	3A1146
		*	3A1147
IDA O	0407	DC A746 AD-FFFF FFFF	3A1147 3A1147
IUA U	UNDI	* DDOO 0001 N/A N/A N/A DFF AFTER LDD	3A1147
		* OGDO DDDD N/A N/A N/A C AFTER AD	3A1147
		* CARRY NDT SET-SHOULD BE	3A1147
		*	3A1147
		*	3A1147
1D8 0	08D3	DC A74C A0-FFFF FFFF	3A1147
	-	* FFFF FFFF N/A N/A N/A AFTER LDD	3A1147
		* FFFF FFFE N/A N/A N/A N/A AFTER AD	3A1148
		* ACCUM NOT EQUAL FFFF	3A1148
		*	3A1148
		•	3A1148
10C 0	08D3	DC A74C AD-FFFF FFFF	3A1148
		* FFFF FFFF N/A N/A N/A AFTER LDD	3A1148
		* FFFF FFFE N/A N/A N/A AFTER AD	3A1148
		* Q REG NOT EQUAL FFFE	3A1148
		•	3A1148
		*	3A1146
1DD D	08D3	DC A74C AD-FFFF FFFF	3A1149
		* FFFF FFFF N/A N/A N/A DFF AFTER LDD	3A1149
		* FFFF FFFE N/A N/A N/A C AFTER AD	3A1149
		* DVERFLOW DN-SHOULD NDT BE	3A1149
		•	341149
		*	3A1149
		*	3A1149 3A1149

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	<b>±</b>	3411/000
************	~ **********************	3A114980
AOORESS		3A115000
DF	•	3A115010
8-REG ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A115020
************	*****************************	
310E 0 0803	DC A74C A0-FFFF FFFF	3A115040
	* FFFF FFFF N/A N/A N/A OFF AFTER LOO	3A115050
•	* FFFF FFFE N/A N/A N/A C AFTER AO	3A115060
	* CARRY NOT ON-SHOULO BE	3A115070
		3A115080
310F 0 0820	*	3A115090
310F U UB2U	DC 8742 AD-FFFF FFFF * FFFF 7FFF N/A N/A N/A N/A AFTER LOO	3A115100
	* FFFF 7FFF N/A N/A N/A N/A AFTER LOO * FFFF 7FFE N/A N/A N/A N/A AFTER AO	3A115110 3A115120
	* ACCUM NOT EQUAL FFFF	3A115120
	*	3A115140
	•	3A115150
3110 0 0820	DC 8742 AD-FFFF FFFF	3A115160
	* FFFF 7FFF N/A N/A N/A N/A AFTER LOO	3A115170
	* FFFF 7FFE N/A N/A N/A AFTER AO	3A115180
	* Q REG NOT EQUAL 7FFE	3A115190
		3A115200
	*	3A115210
3111 0 0820	DC B742 AO-FFFF FFFF FFFF 7FFF N/A N/A N/A OFF AFTER LDO	3A115220
	* FFFF 7FFF N/A N/A N/A OFF AFTER LDO * FFFF 7FFE N/A N/A N/A C AFTER AO	3A115230
	* OVERFLOW SET-SHOULD NOT BE	3A115240 3A115250
	t	3A115260
	•	3A115270
3112 0 082D	OC 8742 AD-FFFF FFFF	3A115280
	* FFFF 7FFF N/A N/A N/A OFF AFTER LOD	3A115290
	FFFF 7FFE N/A N/A N/A C AFTER AO	3A115300
	* CARRY NOT SET-SHOULO BE	3A115310
		3A115320
3113 0 0857	PC	3A115330
	DC 8747 A0-0001 000 LOC * 0000 0001 N/A N/A N/A N/A AFTER LOO	3A115340
	* 0000	3A115350 3A115360
	* ACCUM NOT EQUAL 0001	3A115370
	t	3A115380
		3A115390
3114 0 0857	OC 8747 A0-0001 000 LOC	3A115400
	* 0000 0001 N/A N/A N/A N/A AFTER LDD	3A115410
	* 0001 0002 N/A N/A N/A N/A AFTER AO	3A115420
	* Q REG NOT EQUAL 0002	3A115430
		3A115440
3115 0 0879	DC 4780 CD-0000 0001	3A115450
	DC A780 SD-0000 0001 * 0000 0000 N/A N/A N/A N/A AFTER LOD	3A115460
,	FFFF FFFF N/A N/A N/A N/A AFTER SD	3A115470 3A115480
	ACCUM NOT EQUAL FFFF	3A115490
•	k	3A115500
		3A115510
3116 0 0879	OC A780 S0-0000 0001	3A115520
	* 0000 0000 N/A N/A N/A N/A AFTER LDD	3A115530
•	FFFF FFFF N/A N/A N/A AFTER SO	3A115540
	* Q REG NOT EQUAL FFFF	3A115550
		3A115560
3117 0 0879		3A115570
	OC A780 SD-0000 0001 * 0000 0000 N/A N/A N/A OFF AFTER LOO	3A115580
	FFFF FFFF N/A N/A N/A C AFTER SD	3A115590 3A115600
	OVERFLOW ON-SHOULD NOT BE	3A115610
1	B COLUMN	3A115620
:		3A115630
		3A115640
•	•	3A115650

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	AOORESS	*	3A11568
B-REG	OF RDUTINE	* * A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A11569 3A11570
		++++++++++++++++++++++++++++++++++++++	
3118 0		OC A780 SD-0000 0001	3A11572
		* 0000 0000 N/A N/A N/A OFF AFTER LOO	3A11573
		* FFFF FFFF N/A N/A N/A C AFTER SD	3A11574
		* CARRY NOT ON-SHOULO BE	3A11575
			3A11576
3119 0	OBA3	OC A786 SO-FFFF FFFF	3A11577 3A11578
		* 0000 0000 N/A N/A N/A N/A AFTER LOD	3A11579
		* 0000 0001 N/A N/A N/A N/A AFTER SO	3A11580
		* ACCUM NOT EQUAL TO 0000	3411581
		•	3A11582
	0043	*	3A11583
311A 0	UBAS	DC A786 SO-FFFF FFFF * 0000 0000 N/A N/A N/A N/A AFTER LDD	3A11584
		* 0000 0000 N/A N/A N/A N/A AFTER LDD * 0000 0001 N/A N/A N/A N/A AFTER SO	3A11589 3A11586
		* Q REG NOT EQUAL 0001	3A11587
		*	3A11588
		*	3A11589
311B O	0888	DC A78A SO-FFFF FFFF	3A11590
		* 0000 C000 N/A N/A N/A N/A AFTER LDO	3A11591
		* 0000 C001 N/A N/A N/A N/A AFTER SO	3A11592
		* ACCUM NOT EQUAL 0000	3A11593
		*	3A11594 3A11595
311C 0	0888	OC A78A SD-FFFF FFFF	3A11596
		* 0000 C000 N/A N/A N/A N/A AFTER LDO	3A11597
		* 0000 C001 N/A N/A N/A N/A AFTER SO	3A11598
		* Q REG NOT EQUAL COOL	3A11599
		· •	3A11600
		*	3A11601
311D O	0866	DC A78E SO-FFFF 000 LOC * 0000 0000 N/A N/A N/A N/A AFTER LOO	3A11602
		* 0000 0000 N/A N/A N/A N/A AFTER LOO, * 0000 0001 N/A N/A N/A N/A AFTER SO	3A11603
		* ACCUM NOT EQUAL 0000	3A11605
		*	3A11606
		•	3A11607
311E 0	OBCC	OC A78E SO-FFFF ODO LDC	3A11608
		* 0000 0000 N/A N/A N/A N/A AFTER LOO	3A11609
		* 0000 0001 N/A N/A N/A AFTER SD	3A11610
		* Q REG NOT EQUAL 0001	3A11611
		*	3A11612
311F 0	OBEC.	OC A7CO MULT-ZAAA	3A11613 3A11614
	0000	* 5555 N/A N/A N/A N/A N/A AFTER LO	3A11615
		* 0E38 9C72 N/A N/A N/A N/A AFTER M	3A11616
		* ACCUM NOT EQUAL 0E38	3A11617
		*	3A11618
		•	3A11619
3120 0	OBEC	DC A7CO MULT-ZAAA	3A11620
		* 5555 N/A N/A N/A N/A AFTER LO * 0E38 9C72 N/A N/A N/A AFTER M	3411621
		* Q REG NOT EQUAL 9C72	3A11622 3A11623
		* 4 KEO NOT ENOME 7012	3A11624
		•	3A11625
3121 0	<b>0</b> C01	DC A7C4 MULT-FFFF	3A11626
		* FFFF N/A N/A N/A N/A AFTER LD	3A11627
		* 0000 0001 N/A N/A N/A N/A AFTER M	3A11628
		* ACCUM NOT EQUAL 0000	3A11629
			3A11630
		* *	3A11631
			3A11632

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			-	14114240
******	**********	***********		M116340
	ADDRESS			A116360
	OF			A116370
B-REG	RDUTINE	A-REG Q-REG XR-1 XR-2 XR-3	STATUS	085 31 143
		***********		A116390
3122 0		DC A7C4 MULT-FF	· · · · · · · · · · · · · · · · · · ·	A116400
		FFFF N/A N/A N/A N/A 0000 0001 N/A N/A N/A		A116410
		Q REG NOT EQUAL 0001		A116420 A116430
		T TO NOT DESCRIPTION	_	A116440
				A116450
3123 0	<del>-</del> -	DC A7C8 MULT-FF	FF 3	A116460
		0000 N/A N/A N/A N/A		A116470
		OOOO OOOO N/A N/A N/A		A116480
		ACCUM NOT EQUAL 0000		A116490
		•		A116500 A116510
3124 0	DC 15	DC A7C8 MULT-FF		A116520
•		0000 N/A N/A N/A N/A	· ·	A116530
		0000 0000 N/A N/A N/A	N/A AFTÉR M 3	A116540
		Q REG NOT EQUAL 0000		A116550
				A116560
3125 0		DC A7CC MULT-000		A116570
		FFFF N/A N/A N/A N/A	T	A116580 A116590
		0000 0000 N/A N/A N/A		A116600
		ACCUM NOT EQUAL 0000	3	A116610
			3	A116620
3126 0	V 26	AC 1700 M		A116630
3126 U (		OC A7CC MULT-OO	· · · · · · · · · · · · · · · · · · ·	A116640
		0000 0000 N/A N/A N/A		A116650 A116660
		Q REG NOT EQUAL DOOD		A116670
	;		· ·	A116680
				A116690
3127 0		OC A800 DVD-8000	-	A116700
	:	4000 7FFF N/A N/A N/A		A116710
	•	8000 7FFF N/A N/A N/A ACCUM NOT EQUAL 8000		A116720
		ACCOM NOT EQUAL BOOD		A116730 A116740
				A116750
3128 0	DC43	OC A800 OVD-8000		A116760
		4000 7FFF N/A N/A N/A	N/A AFTER LOD 3	A116770
		8000 7FFF N/A N/A N/A		A116780
	:	Q REG NOT EQUAL 7FFF		A116790
				A116800 A116810
3129 0 0	DC43	OC 4800 DVD-8000		A116820
		4000 7FFF N/A N/A N/A	`	A116830
	:	8000 7FFF N/A N/A N/A	N/A AFTER D 3	A116840
		OVERFLOH ON-SHOULD NOT BE	3	A116850
	<u>:</u>			A116860
312A 0		OC A800 DVD-8000	_	A116870
		4000 7FFF N/A N/A N/A	•	A116880 A116890
	:	8000 7FFF N/A N/A N/A		A116900
		CARRY ON-SHOULD NOT BE		A116910
	:		3	A116920
3128 0		DC 1001 DV5 3333		A116930
7150 U	_	DC A806 DVD-5555		A116940
		1071 BBE3 N/A N/A N/A 5555 20AA N/A N/A N/A	*··· · · · · · · · · · · · · · · · ·	A116950
		ACCUM NOT EQUAL 5555		Al16960 Al16970
	i			A116980
			_	A116990
	:		3	A117000
			3	A117010

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	•	3A117020
*******		**3A117030
ADDRESS		3A117040
0F	*	3A117050
8-REG ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A117060
312C 0 0C71	**************************************	
3120 0 00.1		3A117080
	* 1C71 BBE3 N/A N/A N/A AFTER LDD * 5555 2DAA N/A N/A N/A AFTER D	3A117090
	* Q REG NOT EQUAL ZOAA	3 <b>4117100</b> 3 <b>4117110</b>
	*	3A117120
		3A117130
3120 0 0071	OC A806 OV0-5555	3A117140
	* 1C71 83E3 N/A N/A N/A OFF AFTER LDO	3A117150
	* 5555 2DAA N/A N/A N/A AFTER D	3A117160
	* OVERFLOW ON-SHOULD NOT BE	3A117170
	*	3A117180
312E 0 0C71	OC A806 DV0-5555	3A117190
3116 6 00.1	* 1071 88E3 N/A N/A N/A OFF AFTER LDD	3A117200 3A117210
	* 5555 2DAA N/A N/A N/A N/A AFTER D	3A117220
	* CARRY DN-SHOULD NOT 8E	3A117230
	*	3A117240
	*	3A117250
312F 0 0C9A	OC A80C OVD-0000	3A117260
	* 0000 0001 N/A N/A N/A DFF AFTER LOO	3A117270
	* N/A N/A N/A N/A N/A D AFTER D	3A117280
	* DVERFLOW NDT ON- SHDULO 8E OR Q-REG NDT 1	3A117290
	*	3A117300
3130 0 OCA9	DC A80E 0V0-0001	3 <b>All7310</b> 3 <b>All7320</b>
	* 4000 0000 N/A N/A N/A OFF AFTER LOO	3A117330
	* N/A N/A N/A N/A D AFTER O	3A117340
	* DVERFLOW NOT ON-SHOULD 8E	3A117350
	•	3A117360
2121 0 0007	*	3A117370
3131 0 OC84	DC 8800 0V0-4000	3A117380
	* A000 0000 N/A N/A N/A DFF AFTER LOO * N/A N/A N/A N/A O AFTER O	3A117390
	* N/A N/A N/A N/A O AFTER O  * OVERFLOW NOT ON-SHOULD BE	3A117400
	*	3A117410 3A117420
	•	3A117430
3132 0 OCBF	OC 8802 OVD-8000	3A117440
	* C000 0000 N/A N/A N/A OFF AFTER LOO	3A117450
	* N/A N/A N/A N/A D AFTER D	3A117460
	* OVERFLOW OFFSHOULD BE ON	3A117470
	*	34117480
3133 0 OCCA		3A117490
3133 U UCCA	OC 8804 DVD-0001 * 0000 FFFF N/A N/A N/A DFF AFTER LOD	3A117500 3A117510
	* N/A N/A N/A N/A N/A O AFTER O	3A117510
	* OVERFLOW OFFSHOULD BE ON	3A117530
	*	3A117540
	*	3A117550
3134 0 OCD5	DC 8806 DVO-0001	3A117560
	* FFFF 7FFF N/A N/A N/A OFF AFTER LDD	3A117570
	* N/A N/A N/A N/A N/A D AFTER D	3A117580
	* OVERFLOW OFFSHOULD BE ON	3A117590
	•	3A117600
3135 0 0056	OC A840 MOX 1	3A117610 3A117620
	* N/A N/A 0000 N/A N/A N/A AFTER LDX	3A117630
	* N/A N/A FFFF N/A N/A N/A AFTER MDX 1	3A117640
	* INOEX REG 1 NOT EQUAL FFFF WHEN MD01F1E0	3A117650
	* 8Y MINUS 1	3A117660
	•	3A117670
3136 0 0064	* Of 4947 NOV. LONG FORM	3A117680
2120 A 0004	OC A842 MOX LONG FORM	3A117690

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	_	100 C1 TO MEMORY F111 F0	
******		ADD &1 TD MEMDRY FAILEO	3A117700
	ADDRESS *		3A117720
	DF +		3A117730
	ROUTINE *	A-REG Q-REG XR-1 XR-2 XR-3 STATUS	34117740
******	*********	***************************	*3A117750
	*		3A117760
3137 0 0	·	OC A844 MDX 2 LDNG FORM	3A117770 3A117780
		N/A N/A N/A FFFE N/A N/A AFTER LDX	3A117790
		N/A N/A N/A FFFF N/A N/A AFTER MOX 2	3A117800
	*	THE REAL PROPERTY OF THE PERTY	3A117810
	*		3A117820
	*		3A117830
3138 0 0		DC A846 MDX 3	3A117840 3A117850
3130 0 0.		N/A N/A N/A N/A FFFF N/A AFTER LOX	3A117860
	*	N/A N/A N/A N/A 0000 N/A AFTER MOX 2	3A117870
,		MDX D1D NDT CAUSE A SKIP WHEN INDEX REG 3	3A117880
		WENT TD 0000	3A117890
	*		3A117900
3139 0 0	-	OC A848 MDX 1	3A117910 3A117920
2.22 0		N/A N/A FFFF N/A N/A N/A AFTER LDX	3A117920
		N/A N/A 0003 N/A N/A N/A AFTER MOX 1	3A117940
		MDX DID NOT CAUSE A SKIP WHEN THE SIGN	3A117950
		CHANGED ON INDEX REG 1	3A117960
	*		3A117970
313A 0 08	nor:	DC A849 MOX 1 INDIRECT	3A117980
3134 0 00		N/A N/A FFFE N/A N/A N/A AFTER LDX	3A117990 3A118000
		N/A N/A FFFF N/A N/A N/A AFTER LDX 11	
	*	INDIRECT MOX OF INDEX REG 1 BY E1 FAILED	3A118020
			3A118030
3138 0 00	* *	00 4000 0104 20 3	3A118040
3130 0 00		DC A880 SLCA-XR 1 0000 N/A 0010 N/A N/A N/A AFTER LDX	3A118050
		0000 N/A 0010 N/A N/A N/A AFTER LDX 0000 N/A 0000 N/A N/A N/A AFTER SLCA	3A118060 3A118070
		ACCUM NOT EQUAL 0000	3A118080
	*		3A118090
	*		3A118100
313C 0 00		OC A880 SLCA-XR 1	3A118110
		0000 N/A 0010 N/A N/A N/A AFTER LOX 0000 N/A 0000 N/A N/A N/A AFTER SLAC	3A118120
		INDEX REG 1 NOT EQUAL DOOD	3A118130 3A118140
	*		3A118150
			3A118160
3130 0 00		DC A884 SLCA-XR 1	3A118170
		0001 N/A FFDO N/A N/A N/A AFTER LDX	3A118180
	*	8000 N/A FFC1 N/A N/A N/A AFTER ASCL ACCUM NDT EQUAL 8000	3A118190
	*	HOODIN HUT ENGAL GOOD	3A118200 3A118210
			3A118220
313E 0 08		OC A884 SLCA-XR 1	3A118230
		0001 N/A FFDO N/A N/A N/A AFTER LDX	3A118240
		8000 N/A FFC1 N/A N/A N/A AFTER LDX	3A118250
	*	INDEX REG 1 NOT EQUAL FFC1	3A118260
	*		3A118270 3A118280
313F 0 08		OC A888 SLCA-XR 1	3A118290
		8000 N/A 0010 N/A N/A N/A AFTER LDX	3A118300
		8000 N/A 0010 N/A N/A N/A AFTER SLCA	3A118310
	*	ACCUM NDT EQUAL 8000	3A118320
			3A118330
3140 0 08		DC ABBB SLCA-XR 1	3A118340 3A118350
	- <del>-</del> -	8000 N/A 0010 N/A N/A AFTER LDX	3A118360
		8000 N/A 0010 N/A N/A N/A AFTER SLCA	3A118370
			;

***********	* INDEX REG 1 NOT EQUAL 0010	3A11838
ADORESS	*	3A11839 3A11840
OF	•	3A11841
B-REG ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3411842
*********	**************	**3A11843
	•	3A11844
3141 0 0E59	*	3A11845
9141 0 0559	DC ABBC SLC-XR 1	3A11846
	* 0000 0000 0020 N/A N/A N/A AFTER LOX * 0000 0000 0000 N/A N/A N/A AFTER SIC	3A11847
	* 0000 0000 0000 N/A N/A N/A AFTER SLC * ACCUM NDT EQUAL 0000	3A11848
	* *CCOU MAI ENONE OROO	3A11849
	•	3A11850
3142 0 <b>0</b> E59	OC ABBC . SLC-XR 1	3A11851 3A11852
	* 0000 0000 0020 N/A N/A N/A AFTER LDX	3A11853
	* 0000 0000 0000 N/A N/A N/A AFTER SLC	3A11854
	* Q REG NOT EQUAL 0000	3A11855
	•	3A11856
	•	3A11857
3143 0 0E59	OC ABBC SLC-XR 1	3A11858
	* 0000 0000 0020 N/A N/A N/A AFTER LDX	3A11859
	* 0000 0000 0000 N/A N/A N/A AFTER SLC	3A11860
	* INDEX REG 1 NDT EQUAL 0000	3A11861
	*	3A11862
3144 0 0E78		3A11863
3144 0 0518		3A11864
	* 0000 0002 FFDF N/A N/A N/A AFTER LOX * 8000 0000 FFC1 N/A N/A N/A AFTER SLC	3A11865
	* ACCUM NOT EQUAL 8000	3A11866 3A11867
	*	3A11868
	•	3A11869
3145 0 OE78	DC 8882 SLC-XR 1	3A11870
	* 0000 0002 FF0F N/A N/A N/A AFTER LOX	3A11871
	* 8000 0000 FFC1 N/A N/A N/A AFTER SLC	3A11872
	* Q REG NDT EQUAL 0000	3A11873
	•	3A11874
	•	3A11875
3146 0 OE78	DC 8882 SLC-XR 1	3A11876
	* 0000 0002 FFDF N/A N/A N/A AFTER LDX	3A11877
	* 8000 0000 FFC1 N/A N/A N/A AFTER SLC * INDEX REG 1 NOT FOLIAL FEC3	3A11878
	* INDEX REG 1 NOT EQUAL FFC1	3A11879
	*	3A11880 3A11881
147 0 0E9A	DC 8884 SLC-XR 1	3A11882
	* 0000 0002 001F N/A N/A N/A AFTER LOOSED	
	* 8000 0000 0001 N/A N/A C AFTER SLC	3A11884
	* A SLC TERMINATED BY A DNE BIT IN ACCUM BIT	3A11885
	* ZERD O1D NDT TURN DN CARRY	3A11886
	•	3A11887
		3A11888
3148 0 0E9A	DC 8884 SLC-XR 1	3A11889
	* 0000 0002 001F N/A N/A N/A AFTER LOOGLD	
	* 8000 0000 0001 N/A N/A C AFTER SLC	3A11891
	* ACCUM WAS NOT EQUAL TO 8000	3A11892
		34118930
149 0 0E9A	DC 8884 SLC-XR 1	3A118946 3A118956
L. V U UL JA	* 0000 0002 001F N/A N/A N/A AFTER LODELD	
	* 8000 0002 0001 N/A N/A C AFTER SLC	3A11897
	* A SLC TERMINATED BY A ONE IN ACCUM BIT	3A11898
	* ZERD DID NDT LEAVE XR 1 EQUAL 0001	3A118990
	•	3A11900
	•	3A119010
14A 0 0E8A	OC 8885 SLC-1X 1	3A11902
	* 0000 0002 001C N/A N/A N/A AFTER LDD&LO	X 3A119030
	* 2000 0000 0000 N/A N/A DFF AFTER SLC	3A119046
	* A SLC TERMINATED BY XR 1 GOING TO ZERO LEFT	3A119050

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	* THE CARRY FF SET	3A119060
*******	****************	**3A119070
AOORESS	*	3A119080
OF	*	3A119090
B-KEG ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A119100
******	*******************	
	•	3A119120
3148 D DED6	DC ROAD CMD A CDEATED M	3A119130
3148 D DEDO	DC B8AO CMP A GREATER M  * 4000 N/A N/A N/A N/A N/A	3A119140 3A119150
	* 4000 N/A N/A N/A N/A  * A GREATER THAN M CMP FAILED	3A119160
	#	3A11917G
	*	3A119180
314C 0 0ED6	DC B8AO CMP A GREATER M	3A119190
	* 4000 N/A N/A N/A N/A AFTER LD	3A119200
	* 400D N/A N/A N/A N/A AFTER CMP	3A119210
	* ACC DISTROYED AFTER CMP	3A119220
	*	3A119230
B1/0 B 0551	*	3A119240
3140 D 0EF1	DC 88A1 CMP A LESS M	3A119250
	* 0000 N/A N/A N/A N/A N/A	3A119260
	* ACC LESS THAN M FAILS	3A119270
		3A119280 3A119290
314E D DEF8	DC BBA2 CMP A LESS M	3A119300
32.12 0 02.0	* 0000 N/A N/A N/A N/A	3A119310
	* ACC LESS THAN M FAILS	3A119320
	•	3A119330
	*	3A119340
314F 0 0F05	DC 88A3 CMP A LESS M	3A119350
	* 0000 N/A N/A N/A N/A	3A119360
	* ACC LESS THAN M FAILS	3A119370
	•	3A119380
3150 0 0F0F	*	3A119390
3130 0 0-0-	OC BBA4 CMP A LESS M * BOOD N/A N/A N/A N/A N/A	3A119400
	* BOOO N/A N/A N/A N/A N/A * ACC LESS THAN M FAILS	3A119410
	+ ACC FE22 IMAM M LAIF?	3A119420 3A119430
	•	3A119440
3151 0 DF19	DC BBA5 CMP A EO M	3A119450
	* 1000 N/A N/A N/A N/A	3A119460
	* ACC EO M FAILEO	3A119470
	•	3A119480
	•	3A119490
3152 D DF24	DC 88CO OCH AQ GTR M.M&1	3A119500
	* 8000 0001 N/A N/A N/A N/A	3A119510
	* DCM AQ GREATER THAN M, MG1 FAILEO	3A119520
	*	3A119530
3153 0 0F24	DC 88CO DCM AO GTR M. ME1	3A119540
3133 0 0124	* 8000 0001 N/A N/A N/A N/A	3A119550 3A119560
	* ACC DISTROYED AFTER DCM	3A119570
	*	3A119580
	<b>▼</b>	3A119590
3154 0 OF24	DC 8BCO DCM AQ GTR M,M&1	3A119600
	* 8000 0001 N/A N/A N/A N/A	3A119610
	* O REG DISTROYED AFTER OCM	3A119620
	*	3A119630
3155 0 AC3E	TO DOCK DOWN AS LOCK MINES	3A119640
3155 0 OF3E	DC 88C1 DCM AQ LESS M.ME1	3A119650
	* DOOD BOOD N/A N/A N/A N/A * DCM FAILED WHEN A,O LESS THAN M, M&1	3A119660
	+ now Laten Musu Win FE22 HWM Wi MFT	3A119670
	•	3 <b>A</b> 119680 3 <b>A</b> 119690
3156 0 0F46	DC BBC2 DCM AQ EQ M.ME1	3A119700
	* 0000 8000 N/A N/A N/A N/A	3A119710
	* DCH FAILED WHEN A.Q EQ M. MEI	3A119720
	*	3A119730

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· · · · · · · · · · · · · · · · · · ·	AODRESS	******************	*3A11975 3A11976
	OF	•	3A11977
3-KEG	ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3411976
******	********** \07C	****************	*3A11979
3157 0 (	)D / F	DC A660 LOX 1 -1 * N/A N/A 0000 0000 0000 N/A AFTER LDXAS	3A11980
		* N/A N/A 0000 0000 0000 N/A AFTER LDX 3S * N/A N/A FFFF 0000 0000 N/A AFTER LDX 3	3A11981
		* INDEX 2 CHANGED	3A11982 3A11983
		*	3A11984
		•	3A11985
158 0 (	)87F	DC A660 LDX 1 -1	3A11986
		* N/A N/A 0000 0000 0000 N/A AFTER LDXBS	3A11987
		* N/A N/A FFFF 0000 0000 N/A AFTER LDX 1 * INDEX 3 CHANGED	3411988
		* INDEX 5 CHANGED	3A11989
		•	3A11990 3A11991
159 0 0	897	DC A662 LDX 2 -1	3A11992
		* N/A N/A 0000 0000 0000 N/A AFTER LDX@S	3A11993
		* N/A N/A 0000 FFFF 0000 N/A AFTER LDX 2	3A11994
		* INDEX 1 CHANGED	3A11995
		*	3A11996
15A 0 0	1997		3A11997
124 0 0	,,,,	DC A662 LDX 2 -1 * N/A N/A 0000 0000 0000 N/A AFTER LDX@S	3A11998 3A11999
		* N/A N/A 0000 FFFF 0000 N/A AFTER LDX 2	3A12000
		* INDEX 3 CHANGED	3A12001
		•	3A12002
		•	3A12003
158 0 0	BAF	DC A664 LDX 3 -1	3A12004
		* N/A N/A 0000 0000 0000 N/A AFTER LDX@S  * N/A N/A 0000 0000 FFFF M/A AFTER LDX 3	3A12005
		* N/A N/A 0000 0000 FFFF N/A AFTER LDX 3 * INDEX 1 CHANGED	3A12006
		* INDEX I CHANGED	3A12007 3A12008
		•	3A12009
15C 0 0	BAF	OC A664 LOX 3 -1	3A12010
		* N/A N/A 0000 0000 0000 N/A AFTER LDX2S	3A12011
		* N/A N/A 0000 0000 FFFF N/A AFTER LDX 3	3A12012
		* INDEX 2 CHANGEO	3A12013
		•	3A12014
15D 0 0	enc.	DC A6DO INGEXED INST F#0	3A12D15 3A12016
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,	* INITIALLY XR 1 HAS CORE LOCATION OF	3A12017
		* SYMBOLIC LABEL NGC1	3A12D18
		* AFTER THE TEST THE ACC SHOULD HAVE	3A12019
		* CORE LOCATION OF SYMBOLIC LABEL NGCO	3A12020
		* SHORT FORM INDEXED INST FAILED %X#10	3A12021
		•	3A12022 3A12023
15E 0 0	9E8	DC A6D2 INDEXED INST F#D	3A12023
		* INITIALLY XR 2 HAS CORE LOCATION OF	3A12025
		* SYMBOLIC LABEL NGC1	3A12D26
		* AFTER THE TEST THE ACC SHOULD HAVE	3A12027
		* CORE LOCATION OF SYMBOLIC LABEL N6C2	3A12028
		* SHORT FORM INDEXED INST FAILED %X#20	3A12029
			3A12030 3A12031
15F 0 0	9F4	OC A6D3 INDEXED INST F#0	3A12D32
		* INITIALLY XR 3 HAS CORE LOCATION OF	3A12032
		* SYMBOLIC LABEL NGC1	3A12034
		* AFTER THE TEST THE ACC SHOULD HAVE	3A12035
		* CORE LOCATION OF SYMBOLIC LABEL NGC1	3A12036
		* SHORT FORM INCEXED INST. FAILED %x#3=	3A12037
		•	3A12038
		•	3A12039 3A12040
		•	221C040

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		*	3A120420
******		**************************************	
	ADDRESS	*	3A120440 3A120450
8-REG	OF ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A120460
		************************************	
		**************	
3160 0		DC ABBO SLCA CK CARRY	3A120490
5200		* OODD FFFF ODOA N/A N/A C AFTER LOD&LOS	
		* OODO FFFF OOOD N/A N/A OFF AFTER STS	3A120510
		* CARRY ON SHOULO BE OFF	3A120520
		*	3A120530
		•	3A120540
3161 0	00F6	OC AB84 SLCA CK CARRY	3A120550
		+ 0001 0010 FF00 N/A N/A OFF AFTER LDD&LOX	
		* 80DD 0010 FF01 N/A N/A - C AFTER SLCA	3A120570
		* CARRY OFF, SHOULO BE ON	3A120580
		*	3A120590 3A120600
3162 0	0 F 2 B	DC ABB9 NON INDEXED SLCA	3A120610
3102 0	0.530	* 0001 N/A 0010 0010 0010 N/A AFTER LO	3A120620
		* 0002 N/A N/A N/A N/A AFTER SLCA	3A120630
		* SLCA T#O FAILED	3A120640
		*	3A120650
		•	3A120660
3163 0	0A 00	DC A6D5 INDEXED SLA	34120670
	•	* 0001 N/A 0002 N/A N/A N/A AFTER LD&LDX	3A1206B0
		* ODD4 N/A N/A N/A N/A AFTER SLA	3A120690
		* INDEXED SLA FAILED	3A120700
			3A120710
21// 0	0.4.00	*	3A120720
3164 0	UAUL	DC A6D6 INDEXEO SRA * 00D4 N/A N/A D002 N/A N/A AFTER LDX&LO	3A120730 3A120740
		* ODO1 N/A N/A N/A N/A N/A AFTER EDAGEO	3A12075D
		* INDEXED SRA FAILEO	3A120760
		*	3A120770
		•	3A1207B0
3165 0	0A 18	OC A6FO INOEXEO BSC	3A120790
		* INITIALLY ACC HAS CORE LOCATION OF	3A120800
		* SYMBOLIC LABEL N6F1	3A120B10
		* ACC DISTROYED AFTER INDEXEO 8SC	3A120820
		*	3A120830
21// 2		*	3A120840
3166 D	UA 29	DC A6F1 INDIR, INDEX 8SC	3A120850
		* N/A N/A 0001 N/A M/A N/A AFTER LOX * N/A N/A N/A N/A N/A AFTER BSC	3A120860 3A120870
		* N/A N/A N/A N/A N/A N/A AFTER BSC * INDIRECT, INDEXED BSC FAILEO	3A120880
		*	3A120890
		*	3A120900
3167 0	0810	OC A640 STX CK ACC	3A120910
		* INITIALLY ACC HAS CORE LOCATION OF	3A120920
		* SYMBOLIC LABEL H640	3A120930
		* ACC DISTROYED AFTER STX	3A120940
		•	3A120950
		*	3A120960
3168 0	0D9C	DC A849 MDX CK ACC	3A120970
		* INITIALLY ACC HAS CORE LOCATION OF * SYMBOLIC LABEL H849	3A120980
		* SYMBOLIC LABEL H849 * ACC DISTROYED AFTER MOX	3A120990 3A121000
		*	3A121010
		*	3A121020
3169 0	08C9	DC A670 ACC DECODE	3A121030
		* D001 N/A D01D N/A N/A N/A	3A121040
		* ODOD N/A 0000 N/A N/A N/A	3A121050
		* FALSE DECODE OF ACC BE ZERO	3 <b>A</b> 121060
		* * EACH BIT POSITION IS TESTED	3A12107D
		•	3A121080
		*	3A121090

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**************************************	*	3A12112
OF	*	3A12113
B-REG ROUTINE	* A-REG Q-REG XR-1 XR-2 XR-3 STATUS	3A12114
	**************************************	
316A D 00D4	DC B807 DVD OVFLO	3A12116
	* 6100 OODD N/A N/A N/A OFF AFTER LDD	3A12117
	* N/A N/A N/A N/A N/A D AFTER D	3A12118
	* OVFLO NOT ON	3A12120
	•	3A12121
316B D 0D0F	OC 8808 DVD OVFLO	3A12122
	* BODO ODOO N/A N/A N/A OFF AFTER LDD	3A12123
	* N/A N/A N/A N/A O AFTER D	3A12124
	* DVFLO NOT ON	3A12125
	•	3A12126
	<b>*</b>	3A12127
316C 0 0D1A	DC 8809 OVD NO OVFLO	3A12128
	* FFFF FFFF N/A N/A N/A OFF AFTER LDD	3A12129
	* N/A N/A N/A N/A OFF AFTER D	3A12130
	* OVFLD ON, SHOULD BE OFF	3A12131 3A12132
		3A12132
316D 0 0D26	DC BB10 MPY-DIV ZERO REM	3A12134
3.00 0 0020	* ACC WRONG AFTER MPY-DIV TEST	3A12135
	•	3A12136
	•	3A12137
316E 0 0D26	DC BB10 MPY-DIV ZERD REM	3A12138
	* Q REG WRONG AFTER MPY-DIV TEST	3A12139
	•	3A12140
21.5 2 20.6	*	3A12141
316F 0 0D64	DC A842 MOY CK ACC  * INITIALLY ACC HAS CORE LOCATION OF	3A12142 3A12143
	* SYMBOLIC LABEL N844	3A12144
	* ACC DISTROYED AFTER ADD TO MEMORY	3A12145
	*	3A12146
	•	3A12147
3170 0 05FC	OC A5OA BSC CK ACC	3A12148
	* BDD1 N/A N/A N/A N/A AFTER LO	3A12149
	* 8DO1 N/A N/A N/A N/A AFTER 8SC	3A12150
	* ACC DISTROYED AFTER BSC CONDITIONS MET	3A12151
	•	3A12152
2171 0 0002	* DC A84A MOX MEM CK SKIP	3A12155 3A12154
3171 0 ODB2	DC A84A MOX MEM CK SKIP  * MEMORY LOC HAS ZERO	3A12155
	* MDX FAILED TO SKIP	3A12156
	*	3A12157
	*	3A12158
3172 0 ODBC	DC A85A MOX MEM CK NO SKP	3A12159
	* MEMORY LOC IS NON ZERO	3A12160
	* MDX SK1PED, SHOULD NOT HAVE	3A12161
	•	3A12162
	*	3A12163
2172 0 0549	* DC A88A SW 15 NO INDEX	3A12164 3A12165
3173 0 OE48	DC A88A SW 15 NO INDEX  * OODO FFFF 0010 0010 0010 NAFTER LDX@S	3A12166
	* 7FFF N/A N/A N/A N/A NAFTER SLC	3A12167
	*ACCUM NOT EQ TO 7FFF	3A12168
	*	3A12169
	*	3A12170
	•	3A12171
3174 0 OF69	DC FODO IMPROPER CONTROL	3A12172
	* OPERATION SPECIFIED,	3A12173
	* 8IT SW 14 ON WITHOUT	3A12174
	* BIT SW B OR 12 UN. * CORRECT SWS AND PUSH	3A12175 3A12176
	* CORRECT SWS AND PUSH	

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					24121700
	*			*****	3A1217B0
	****	****		*****	3A121790 3A12180D
3175	****	ORG			3A121810
012C 0 03A1		DC	300 /D3Al	PID	3A121820
OLEC O OSAL	*	50	/UJA1	710	3A121830
	****	******	*******	****************	3A121840
	*				3A121850
	*		TEST	MDX DPERATION	3A121860
	*				3A121870
	****	*****	********	******	3A121880
************	****	******	********	*******	
CORE DATA OR	*LA-	OPER-			3A121900
AODR INSTRUCTION	*8EL	ATION FT	OPERANOS &	REMARKS 108SEQ# AT RIGHT	3A121910
	*****	******	*******	*********	3A121920
012D 0 3000	X000	DC	/3000	SET SWITCHES TO RUN	3A121930
012E 0 7001	A080	MDX	G0 80		3A121940
012F 0 3004		<b>0</b> C	/3004	ERR ID & ERR WAIT	3A121950
2100 0 7005	*			MOX BY 1 FAILED	3A121960
0130 0 7002	G080	MOX	G081	500 ID 6 500	3A121970
0131 0 3005		DC	/3005	ERR ID & ERR WAIT	3A1219B0
0132 0 3006	•	DC	/2006	MDX BY 2 FAILEO	3A121990
0132 0 3006	*	DC .	/3006	ERR ID & ERR WAIT MDX BY 2 FAILEO	3A122000 3A122010
0133 0 7004	G081	MOX	G0 8 2	DUA DI & FAILEV	3A122010
0134 0 3007	9001	DC	/3007	ERR 10 & ERR WAIT	3A122030
	*		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	MOX BY 4 FAILED	3A122040
0135 0 3008		DC	/3008	ERR ID & ERR WAIT	3A122050
222 2 224	*			MDX BY 4 FAILED	3A122060
0136 0 3009		OC	/3009	ERR ID & ERR WAIT	3A122070
	*			MOX BY 4 FAILED	3A1220B0
0137 0 300A		DC	/300A	ERR ID & ERR WAIT	3A122090
	*			MDX BY 4 FAILEO	3A1221D0
0138 0 7002	G082	MDX	GD84		3A1/22110
0139 0 3008		<b>0</b> C	/3D0B	ERR ID & ERR WAIT	3A122120
	*			MDX BY 2 FAILED .	3A122130
013A 0 7004	G083	MDX	AOCO	EXIT TO NEXT ROUTINE	3A122140
0138 0 70FE	G084		G083		3A122150
013C 0 300C		DC	/3 <b>0</b> 0C	ERR ID & ERR WAIT	3A122160
0120 0 2000	*			MOX BY -2 FAILED	3A122170
, 0130 0 300D	* .	0C	/300D	ERR ID & ERR WAIT	3A1221B0
0135 0 3005	•	0.0	12005	MOX BY -2 FAILED	3A122190
013E 0 300E		DC	/300E	ERR 10 & ERR WAIT	3A122200
	*			MOX BY -2 FAILEO	3A122210
	*		7557	DF BSC SKIP WHEN IT	3A122220 3A122230
	*		SHOUL		3A122240
	*		3502		3A122250
	****	*****	*******	*****	3A122260
013F 0 2003	AOCO	LDS	3	SET C AND DE DN	3A122270
0140 0 4802	-	BSC	Č	SK IF CARRY IS DEF	3A1222B0
0141 D 7002		MOX	GOC1		3A122290
0142 0 300F		OC	/300F	ERR ID & ERR WAIT	3A122300
	*			BSC-CARRY FAILEO	3A122310
0143 D 0000	N100	OC	0		3A122320
0144 0 4801	GOC 1	BSC	D		3A122330
0145 0 7001		MDX	6002		3A122340
0146 0 3010	*	DC	/3010	ERR ID & ERR WAIT	3A122350
0147 0 4801	<b>GOC 2</b>	950	0	BSC-DVERFLOW FAILED	3A122360
0148 0.3011	3062	BSC DC	D /3011	CK IF DF WAS RESET	3A122370
0140 U. 3011	*	<i>5</i> C	, 3011	ERR ID & ERR WAIT BSC-OVFLW SKPD-SHDULO	3A122380
	*			*NOT HAVE	3A122390 3A122400
0149 0 2000		LOS	0	RESET CARRY TO OFF	3A122400
014A 0 4802		BSC	č	SK IF CARRY IS DEF	3A122420
0148 0 3012		<b>0</b> C	/3012	ERR ID & ERR WAIT	3A122430
				BSC-C DIO NOT SKIP	3A122440
	*				3A122450

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420403

420403A

415490C 419643

TEST OF ACC ABILITY TO HOLD 3A122460 ALL ZERDS 3A122470 3A122480 \*\*\*\*\*\*\*\*\*\*\*\*\*\* 3A122490 CORE DATA OR \*LA- OPER-3A122510 INSTRUCTION \*BEL ATION FT OPERANDS & REMARKS IDESEQ# AT RIGHT 3A122520 ADDR 014C 0 COF6 A100 L0 N100 LD /0000 3A122540 D140 0 4820 BSC SK IF ZERD 3A122550 014E 0 3013 /3013 ĐC ERR ID & ERR WAIT 3A122560 LO ACC TO O FAILEO 3A122570 014F 0 CDE3 LD N100 ACC#0, RELDAD TO 0 3A122580 0150 D 4820 BSC SK IF ZERO 3A122590 0151 0 3014 DC /3014 ERR ID & ERR WAIT 3A1 22600 LD ACC TO O FAILED 3A122610 0152 D 4804 BSC SK IF EVEN 3A122620 0153 0 3015 /3015 DC ERR ID & ERR WAIT 3A122630 BSC ON EVEN FAILED 3A122640 3A122650 CONTAIN ALL DNES 3A122660 3A122670 \*\*\*\*\*\*\*\*\*\*\*\*\* 3A122680 0154 0 CO4A A140 LO N140 ACC.#0.RELDAO TO ONES 3A122690 0155 0 4810 BSC SK IF MINUS 3A122700 0156 D 3016 DC /3016 ERR ID & ERR WAIT 3A122710 LDAO ACC. FAILED DR 3A122720 \*BSC ON NEG. FAILEO 3A122730 0157 0 4808 BSC 3A122740 0158 D 7001 G140 MOX 3A122750 0159 0-3017 DC /3017 ERR ID & ERR WAIT 34122760 BSC DN & SKPD-3A122770 015A 0 4804 G140 BSC \*SHOULD NOT HAVE 3A122780 0158 0 7001 MOX G141 3A122790 015C 0 3018 00 ERR ID & ERR WAIT /3018 3A122800 8SC DN E SKPD-3A122810 0150 D 1801 6141 SRA \*SHOULD NOT HAVE 3A122B20 015E 0 4804 BSC 3A122E30 015F D 7001 XOM 6142 3A122840 D160 0 3019 DC /3019 ERR ID & ERR WAIT 3A122850 ACC NOT # 7FFF 3A122860 G142 SRA D161 0 1801 3A12287D 0162 0 4804 BSC 3A122880 0163 0 7001 HDX G143 3A122B90 0164 D 301A DC /301A ERR ID & ERR WAIT 3A122900 ACC NOT # 3FFF 3A122910 0165 D 1801 G143 SRA 3A122920 D166 0 4804 BSC F 3A122930 0167 0 7001 MDX G144 3A122940 0168 D 3018 DC /301B ERR ID & ERR WAIT 3A122950 ACC NOT # 1FFF 3A122960 0169 0 1801 SRA G144 3A122970 016A 0 4804 BSC 3A122980 0168 0 7001 MDX G145 3A122990 016C D 0000 DC ERR 10 & ERR WAIT 3A123000 /3D1C ACC NOT # OFFF 3A123010 D16D 0 1801 G145 SRA 3A12302D 016E D 4804 8SC 3A123030 016F D 7001 HDX G146 3A123040 D170 D 3010 DC ERR ID & ERR WAIT /3010 3A123050 ACC NOT # 07FF 3A123060 D171 D 1801 SRA G146 3A123070 0172 D 4804 BSC 3A1230B0 0173 0 7001 MOX G147 3A123090

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DC

SRA

BSC

G147

/301E

Ε

ERR ID & ERR WAIT

ACC NOT # 03FF

0174 D 301E

0175 0 1801

0176 0 4804

IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

CPU FUNCTION TEST

415490 415490C 419643 420403 EC ND. 420403A 3A123100

3A123110

3A123120

3A123130

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•					
0177 0 7001		MOX	G148		3A123140
0178 0 301F		oc	/301F	ERR IO & ERR WAIT	3A123150
	*		•	ACC NOT # 01FF	3A123160
0179 0 1801	G148	SRA	1		32123170
017A 0 4804		8 S C	E		3A123180
0178 0 7001 - 017C 0 3020		MOX	G149	500 ID 6 500 HATT	3A123190
0170 0 3020	*	oc	/3020	ERR ID & ERR WAIT ACC NOT # OOFF	3A123200 3A123210
0170 0 1801	G149	SRA	1	ACC NOT & OUP	3A12322D
017E 0 4804		85C	Ē		3A123230
017F 0 7001		MDX	G14A		3A123240
0180 0 3021		oc	/3021	ERR 1D & ERR WAIT	3A12325D
	*			ACC NOT # DOTF	3A123260
0181 0 1801	G14A	SRA	1		3A123270
0182 0 4804		8SC	E		3A123280
0183 0 7001 0184 0 3022		MDX OC	G14B /3022	COD ID C COD MAIT	3A123290
0104 0 3022	*	OC	73022	ERR ID & ERR WAIT ACC NDT # 003F	3A123300 3A12331D
0185 0 1801	G148	SRA	1	ACC (101 # 003)	3A12332D
0186 0 4804	••••	8SC	Ē		3A123330
0187 0 7001		MDX	G14C		3A123340
0188 0 3023		OC	/3023	ERR IO & ERR WAIT	3A123350
	*			ACC NDT # DO1F	3A123360
0189 0 1801	G14C	SRA	1		3A123370
018A 0 4804 018B 0 7001		8 SC	E		3A123380
018C 0 3024		MDX DC	G14D /3024	COD TO C COD HATT	3A123390
0180 0 3024		UC	/3024	ERR IO & ERR WAIT ACC NDT # 000F	3A123400
018D 0 1801	G14D	SRA	1	ACC NOT & DOOP	3A123410 3A12342D
018E 0 4804		8SC	Ė		3A123430
018F 0 7001		MDX	G14E		3A123440
0190 0 3025		DC	/3025	ERR ID & ERR WAIT	3A123450
	*			ACC NDT/ # DOO7	3A123460
0191 0 1801	G14E	SRA	1		3A123470
0192 0 4804		8SC	E	į.	3A123480
0193 0 7001 0194 0 3026		MOX	G14F	500 ID 6 500 IMIX	3A123490
0194 0 3028		OC	/3026	ERR ID & ERR WAIT ACC NDT # 0003	3A123500 3A123510
0195 0 1801	614F	SRA	1	ACC NOT # 0003	3A123520
0196 0 4804		8SC	Ē		3A123530
0197 0 7001		MDX	G150		3A123540
0198 0 3027		DC	/3027	ERR ID & ERR WALT	3A123550
	*			ACC NOT # 0001	3A12356D
0199 0 1801	6150	SRA	1		3A12357D
019A 0 4804 0198 0 3028		8SC	E	555 ID 4 555	3A123580
0178 0 3028	*	DC	/3028	ERR ID & ERR WAIT ACC NDT # 0000	3A123590 3A123600
0190 0 4820	•	8SC	Z	ACC NOT # 0000	
0190 0 3029		0C	/3029	ERR 1D & ERR WAIT	3A123610 3A12362D
	*			ACC NOT # 0000	3A123630
019E 0 7001		MDX	A180	EXIT TO NEXT ROUTINE	3A123640
019F O FFFF	N140	DC	/FFFF		3A123650
	*				3A123660
	*		TEST	LDING DF DNES DN ONES	3A123670
	*	******	****		3A12368D
************				***************	3A12369D
CORE DATA OR		DPER-	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	······································	3A123700 3A123710
ADDR INSTRUCTION			UPERANOS E	REMARKS ID&SEQ# AT RIGHT	
***********	*****	******	********	*******	3A12373D
01AO 0 CO49		LO	N180	LD /FFFF	3A123740
01A1 0 482C		8SC	&EZ	SK ON &+EVEN OR ZERO	3A123750
01A2 0 4810		8SC	-	SK IF MINUS	3A123760
01A3 0 302A		DC	/302A	ERR ID & ERR WAIT	3A123770
01A4 0 CO45	-	10	W180	ACC NDT # FFFF	3A123780
01A5 0 482C		L0 85C	N180 &EZ	LD /FFFF	3A123790 3A1238D0
01A6 0 4810		BSC	-		3A12381D

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EC NO. 415490 41549DC 419643 420403 420403A

01A7 0 3028	*	DC /302	R ERR ID & ERR WAIT ACC NOT # FFFF	3A123820
01A8 0 1801		SRA 1	SHIFT RIGHT DNE	3A123830
01-0 0 1001	*	3NA 1	TEST ABILITY OF ACC TO SHIFT	3A123840
D1A9 0 4804		BSC E	ight wolfill of wee in Suit.	3A123850 3A123860
D1AA 0 7001		MDX 6181		3A123870
01A8 0 302C		DC /302		3A123880
	*		ACC NDT # 7FFF	3A123890
DIAC 0 1801		SRA 1		3A123900
1AD 0 4804		BSC E		3A123910
DIAE 0 7001		MDX G18		3A123920
DIAF 0 302D		OC /302		3A123930
0180 D 1801	# G182	CD.4 .	ACC NDT # 3FFF	3A123940
0181 0 4804		SRA 1 BSC E		3A123950
D182 D 7DD1		MDX G183		3A123960 3A123970
0183 0 3D2E		DC /302		3A123980
	*		ACC NDT # 1FFF	3A123990
184 D 18D1	G183	SRA 1		3A124000
185 0 4804		8SC E		3A124010
01B6 0 7001		MOX G184		3A124020
0187 D 302F		DC /3D2	F ERR ID & ERR WAIT	3A124030
	*		ACC NDT # OFFF	3A12404[
0188 D 1801		SRA 1		3A124050
0189 0 4804		BSC E		3A124060
018A 0 7001		MDX G185		3A124070
018B 0 3D30		OC /303		3A124080
0180 0 1801	•	SRA I	ACC NOT # 07FF	3A124090
018D 0 4804		SRA I. 8SC E		3A124100
18E 0 7001		MDX 6186		3A124110 3A124120
18F 0 3031		DC /303		3A124130
	*		ACC NOT # 03FF	3A124140
1CO 0 1801	G186	SRA 1		3A124150
D1C1 0 4804	(	BSC E		3A124160
11C2 0 7001		MDX G187		3A124170
01C3 0 3032		DC /303	2 ERR ID & ERR WAIT	3A124180
	*		ACC NDT # 01FF	3A124190
104 0 1801		SRA 1		3A124200
01C5 0 4 <b>804</b> 01C6 0 7D01		BSC E		3A124210
0167 0 3033		MOX 618a DC /303		3A124220
7107 0 3033	*	JC 7503	3 ERR ID & ERR WAIT ACC NDT # OOFF	3A124230 3A124240
0168 0 1801		SRA 1	ACC NOT 9 OUT	3A124250
DIC9 0 4804	_	BSC E		3A124260
DICA 0 7001		MDX 6189		3A124270
1C8 D 3034		OC /303		3A124280
	*		ACC NDT # 007F	3A124290
DICC D 1801		SRA 1		3A124300
DICD 0 4804		BSC E		3A124310
DICE 0 7001		MOX G18A		3A124320
DICF D 3035		DC /303		3A124330
1100 D 1001	C194	CD 4	ACC NDT # 0D3F	3A124340
01D0 D 1801 01D1 <b>G</b> 4804		SRA 1	·	3A124350
0102 D 7001		BSC E MDX G188		3A124360 3A124370
103 0 3036		00 /303		3A124380
	*	-5 ,503	ACC NOT # 001F	3A124390
0104 0 1801		SRA 1		3A124400
1D5 D 4804		BSC E		3A124410
1D6 D 7001		40X 6180		3A124420
1107 0 3037		DC /303		3A124430
	*		ACC NDT # 000F	3A124440
1D8 0 1801		SRA 1		3A124450
0109 0 4804		BSC E		3A124460
010A 0 7001		40X 6180		3A124470
0108 0 3038		DC /303		3A124480
	*		ACC NDT # 0007	3A124490

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415490 415490C 419643 420403 420403A

18M MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

CPU FUNCTION TEST

01DC 0 1801	G18D	SRA	1		3A124500
01DD 0 4804		BSC	E		3A124510
01DE 0 7001		MDX	G18E	500 10 0 500 WATT	3A124520 3A124530
01DF 0 3039	*	DC	/3039	ERR ID & ERR WAIT ACC NOT # 0003	3A124540
01E0 0 1801	G18E	SRA	1	ACC 101 # 0003	3A124550
01E1 0 4804	OIOC	BSC	Ė		3A124560
01E2 0 7001		MDX	G18F	,	3A124570
01E3 0 303A		OC	/303A	ERR ID & ERR WAIT	3A124580
	*			ACC NOT # 0001	3A124590
01E4 0 1801	G18F	SRA	1		3A124600
01E5 0 4804		BSC	£	EDD ID C EDD WATT	3A124610 3A124620
01E6 0 303B	*	OC	/303B	ERR ID & ERR WAIT ACC NDT # 0000	3A124630
01E7 0 4820	•	BSC	2	700 HOT # 0000	3A124640
01E8 0 303C		DC	/303C	ERR ID & ERR WAIT	3A124650
0120 0 3030	*			ACC NOT # 0000	3A124660
01E9 0 7001		MDX	AICO	EXIT TO NEXT ROUTINE	3A124670
Olea O FFFF	N180	DC	/FFFF		3A124680 3A124690
	*			EST ABILITY TO LOAD ZEROS	3A124700
	*			N TOP OF ZERDS AND ONES ON	3A124710
	*		_	OP OF ZEROS	3A124720
	*		•	-	3A124730
	****	******	*****	*******	3A124740
			*****	*****************	
CORE DATA OR	-	OPER-	0055	DS & REMARKS ID&SEQ# AT RIGHT	3A124760
ADDR INSTRUCTION	*8EL	ALLUN FI	UPEKAN	DS & REMARKS	
01E8 0 C007	ALCO	LD	N1CO	LD /0000	3A124790
01EC 0 4820	~****	8SC	Z	SK ON ZERO	3A124800
01ED 0 3030		DC	/303D	ERR ID & ERR WAIT	3A124810
_	*			ACC NOT # ZERO	3A124820
01EE 0 C005		LD	NICI	LD /FFFF	3A124830
01EF 0 482C		BSC	<b>€</b> EZ	CV ON MINUS	3A124840 3A124850
01F0 0 4810		BSC	- /2025	SK ON MINUS ERR ID & ERR WAIT	3A124860
01F1 0 303E	*	DC	/303E	ACC NOT # FFFF	3A124870
01F2 0 7002		MDX	AlDo	EXIT TO NEXT ROUTINE	3A124880
01F3 0 0000	NICO	DC	/0000		3A124890
01F4 O FFFF	N1C1	DC	/FFFF		3A124900
	*		_		3A124910
	*		1	TEST EOR OPERATION	3A124920 3A124930
	*		*****	*******	3A124940
01F5 0 C01C	AlDo	LD	N1D1	LD /0000	3A124950
01F6 0 4820	~100	BSC	2	SK ON ZERO	3A124960
01F7 0 303F		DC	/303F	ERR ID & ERR WALT	3A124970
	*			ACC NOT # ZERO	3A124980
01F8 0 F019		EOR	N1D1	ZERD WITH /0000	3A124990
01F9 0 4820		B S C	13060	SK ON ZERO ERR ID & ERR WAIT	3A125000 3A125010
01FA 0 3040	*	DC	/3040	EOR OF O AND O FAILED	3A125020
01FB 0 C015	-	LD	N100	LD /FFFF	3A125030
01FC 0 F014		EOR	N1D0	ZERO WITH /FFFF	3A125040
01FD 0 4820		BSC	Z		3A125050
01FE 0 3041		DC	/3041	ERR ID & ERR WAIT	3A125060
A155 A 5511	*	F 04	412.00	EOR OF 1 AND 1 FAILED	3A125070
01FF 0 F011 0200 0 482C		EOR	N1DO		3A125080 3A125090
0200 0 4820		BSC BSC	&EZ		3A125100
0202 0 3042		DC	/3042	ERR ID & ERR WAIT	3A125110
	*			EOR OF 1 AND O FAILED	3A125120
0203 0 1801		SRA	1		3A125130
0204 0 F00E		EOR	N1D2		3A125140
0205 0 4820		BSC	2	500 ID 4 500 WIT	3A125150
0206 0 3043		DC	/3043	ERR ID & ERR WAIT EOR OF 1 AND 0 FAILED	3A125160 3A125170
	*			EUR UP I AND U PAILED	3M153110

0207					LD		N1D0		3A125180
0208	_				EOR		N101		3A125190
0209					BSC		£E Z		3A125200
D20A					BSC		4204	500 ID 4 500	3A125210
0208	O	3044		_	DC		/3044	ERR ID & ERR WAIT	3A125220
	_	1001		*				EDR OF 0 AND 1 FAILED	3A125230
020C   020D					SRA		1 N1D2		3A125240
020D 020E					E OR B S C		2		3A125250
020E					DC		/3045	ERR ID & ERR WAIT	3A125260
JZUF	U	3043		*	DC		/3045	EOR OF O AND 1 FAILED	3A125270 3A125280
0210	Λ	7003		•	MDX		A1EO	EXIT TO NEXT ROUTINE	3A125290
0211	-			N1D0	DC		/FFFF	CALL TO MEAT ROOTING	3A125300
0212	-			NID1	DC		/0000		3A125310
0213				N1D2	DC		/7FFF		3A125320
				*					3A125330
				*			TEST	OF ABILITY TO SET	3A125340
				*			F 81	T TO ONE	3A125350
				*					3A125360
			_				_	**************	3A125370
0214			021F	Aleo	_	L	N1E1	LD /0000	3A125380
0216					8SC		2	SK ON ZERO	3A125390
0217	0	3046		_	DÇ		/3046	ERR ID & ERR WAIT	3A125400
	_			*		_		WRDNG LOCATION LOADED	3A125410
		C400	OZIE		LD	L	N1EO	LD C#N1EOD	3A125420
021A	-				EDR		NIEO	EW ON 1500	3A125430
021B					BSC		7	SK ON ZERO	3A125440
021C	U	3041		*	DC		/3047	ERR 1D & ERR WAIT WRONG LOCATION LOADE	3A125450 3A125460
021D	^	7002		•	MDX		A1F0	EXIT TO NEXT ROUTINE	3A125470
0210 021E				NIEO	DC		NIEO	EXIT TO NEXT ROUTING	3A125480
021E	-			NIEL	DC		/0000		3A125490
0211	U	0000		*	OC.		70000		3A125500
				*			TEST	OF INDIRECT ADDRESSING	3A125510
				*				or indirect houseborno	3A125520
				****	****	***	********	******	3A125530
0220	0	C480	022C	Alfo	LO	1	N1F2	LD /0000	3A125540
0222	-				8SC		Ζ.	SK ON ZERO	3A125550
0223	0	3048			DC		/3048	ERR 1D & ERR WAIT	3A125560
				*				WRONG LOCATION LOADED	3A125570
0224			022B		LD	I	N1F1	LD CXN1F1=	3A125580
0226					EOR		N1F1	ZERO WITH C%N1F10	3A125590
0227					BSC		Z		3A125600
0228	0	3049			DC		/3049	ERR 1D & ERR WAIT	3A125610
				*				WRONG LOCATION LDADED	3A125620
0229	_				MDX		A200	EXIT TO NEXT ROUTINE	3A125630 3A125640
0224				N1FO	DC		/0000		3A125650
022B	_			N1F1	DC		N1F1		3A125660
<b>022</b> C	Ü	0224		N1F2	DC		N1F0		3A125670
				*			TEST	OF BSC LONG FORM AND	3A125680
			•	*				RECT OPERATION	3A125690
				*			Indi	KECT OPERATION	3A125700
				****	****	***	*******	******	3A125710
								*******	
****		****	******						
					OPER-				3A125/30
CORE		DATA	A OR	*LA-	OPER-		OPERANDS	E REMARKS IDESEQ# AT RIGHT	
CORE		DATA	A OR FRUCTION	*LA- *BEL	ATION	FT	OPERANDS	& REMARKS   ID&SEQ# AT RIGHT	3A125740
CORE ADDR *****	***	DAT/	A OR FRUCTION	*LA- *BEL	ATION	FT ***	********	& REMARKS ID&SEQ# AT RIGHT	3A125740 3A125750
CORE ADDR *****	*** G	DATA INS	A OR TRUCTION	*LA- *BEL *****	ATION	FT ***	********	& REMARKS ID&SEQ# AT RIGHT ************************************	3A125740 3A125750
CORE ADDR *****	*** G	DATA INS	A OR TRUCTION	*LA- *BEL *****	ATION BSC	FT ***	********* G200	********************	3A125740 3A125750 3A125760 3A125770
CORE ADDR ***** 022D 022F	*** G O	DAT/ INS ***** 4C00 304A	A OR TRUCTION	*LA- *BEL ***** A200	ATION BSC	FT ***	********* G200	**************************************	3A125740 3A125750 3A125760 3A125770 3A125780
CORE ADDR ***** 022D 022F	*** G O	DAT/ INS ***** 4C00 304A	A OR TRUCTION	*LA- *BEL ***** A200	ATION BSC DC	FT ***	G200 /304A	ERR ID & ERR WAIT BSC DID NOT BRANCH	3A125740 3A125750 3A125760 3A125770 3A125780 3A125790 3A125800
CORE ADDR ***** 022D 022F 0230	G 0	DAT/ INS: 4C00 304A 304B	A OR TRUCTION	*LA- *BEL ***** A200	ATION BSC DC	FT ***	G200 /304A	ERR ID & ERR WAIT BSC DID NOT BRANCH ERR ID & ERR WAIT BSC SKPD-SHDULD BRNCH	3A125750 3A125760 3A125770 3A125780 3A125790 3A125800 3A125810
CORE ADDR ***** 022D 022F 0230	G O O	DAT/ INS: 4C00 304A 304B	A OR TRUCTION	*LA- *BEL ***** A200 *	BSC DC DC	FT *** L	G200 /304A /3048	**************************************	3A125740 3A125750 3A125760 3A125770 3A125770 3A125790 3A125800 3A125810 3A125820
CORE ADDR ***** 022D 022F 0230 0231 0232	0 0	DAT/ INS: 4C00 304A 304B C03A 4C04	A OR IRUCTION ************************************	*LA- *BEL ***** A200 *	BSC DC DC	FT *** L	G200 /304A /3048 N200	**************************************	3A125740 3A125750 3A125760 3A125770 3A125770 3A125790 3A125800 3A125810 3A125820 3A125830
CORE ADDR ****** 022D 022F 0230	0 0	DAT/ INS: 4C00 304A 304B C03A 4C04	A OR IRUCTION ************************************	*LA- *BEL ***** A200 *	BSC DC DC LD BSC	FT *** L	G200 /304A /3048 N200 G201, E	**************************************	3A125740 3A125750 3A125760 3A125770 3A125770 3A125790 3A125800 3A125810 3A125820

			•	
	•		8SC SKPO-SHOULD BRNCH	3A125860
0236 0 4COB 023A		L G202+&	BR IF NOT PLUS	3A125B70
0238 0 304E	OC	/304E	ERR IO & ERR WAIT	3A125880
	*		BSC - OIO NOT BRANCH	3A125890
0239 0 304F	OC	/304F	ERR IO & ERR WAIT	3A125900
	*		8SC SKPO-SHOULO BRNCH	3A125910
023A 0 4C20 023E		L G203+Z	500 10 C 500 WALT	3A125920
0230 0 3050	. OC	/3050	ERR IO & ERR WAIT	3A125930
	*	12.55	8SC Z 010 NOT SKIP	3A125940
0230 0 3051	_ OC	/3051	ERR 10 & ERR WAIT	3A125950 3A125960
0335 0 (610 03/)	*	L V154	BSC SKPO-SHOULO BRNCH BR IF NOT MINUS	3A125970
C23E 0 4C10 0241			SK IP NOT HINUS	3A1259B0
0240 0 7001	MOX V154 OC	G204 /3052	ERR IO & ERR WAIT	3A125990
0241 0 3052	* *	73032	SSC SKPD-SHOULO NOT	3A126000
0242 0 2003	G204 LOS	3	SET C AND OF ON	3A126010
0242 0 2003		£ G205•C	BR IF CARRY IS ON	3A126020
0245 0 3053	oc oc	/3053	ERR 10 & ERR WAIT	3A126030
0249 0 3093	*	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	BSC C DIO NOT BRANCH	3A126040
0246 0 3054	OC	/3054	ERR IO & ERR WAIT	3A126050
	*		BSC SKPD-SHOULD BRNCH	3A126060
0247 0 4C01 024B	G205 8SC	L G208.0	BR IF OF ON	3A126070
0249 0 3055	OC OC	/3055	ERR IO & ERR WAIT	3A126080
			BSC O OIO NOT BRANCH	3A126090
024A 0 3056	oc	/3056	ERR 10 & ERR WAIT	3A126100
			8SC SKPD-SHOULD BRNCH	3A126110
024B 0 4C01 024E	G208 8SC	L V168.0	8R IF OF ON	3A126120
0240 0 7001	MOX	G2 06		3A126130
024E 0 3057	V168 OC	/3057	ERR IO & ERR WAIT	3A126140
	*		8SC 8RNCD-SHOULO NOT	3A126150
024F 0 2000	G206 LOS	0		3A126160
0250 0 4002 0253		L V170.C	8R IF CARRY IS OFF	3A126170
0252 0 7001	MDX	G207		3A126180
0253 0 3058	V170 OC	/3058	ERR IO & ERR WAIT	3A126190
	*		BSC BRNCO-SHOULO NOT	3A126200
0254 0 4C01 0257	G207 BSC	L V174.0	8R IF OF ON	3A126210
0256 0 7001	MOX	G209		3A126220
0257 0 3059	V174 OC	/3059	ERR IO & ERR WAIT	3A126230
			BSC BRNCD-SHOULO NOT	3A126240
0258 0 CO14	G209 LO	N201		3A126250
0259 0 4C18 0250		L G20A, &-	BR ON ZERO	3A126260
0258 0 305A	OC	/305A	ERR IO & ERR WAIT	3A126270
			8SC E- OID NOT BRANCH	3A1262B0
025C 0 3058	OC	/3058	ERR IO & ERR WAIT	3A126290
			8SC SKPD-SHOULD BRNCH	3A126300
0250 0 COOE	GZOA LD	N200		3A126310
025E 0 4C18 0261		L V180, E-		3A126320
0260 0 7001	MOX		500 500	3A126330
0261 0 305C	V1BO OC	/305C	ERR 10 & ERR WAIT	3A126340
0343 0 0000	*	NZAZ	8SC BRNCHEO-SHOULONT	3A126350 3A126360
0262 0 C008	G200 L0	N202		
0263 0 4C1B 0266		L V184,&- G208		3A126370 3A126380
0266 0 3050	MOX		EDD TO C EDD WATT	
0266 0 3030	V1B4 DC	/3050	ERR IO & ERR WAIT  8SC BRNCHED-SHOULONT	3A126390
0267 0 4C80 026F		I N203	OSC BRNCHED-SHOULDNI	3A126400 3A126410
0269 0 305E	00	/305E	ERR IO & ERR WAIT	3A126420
	*	, 5050	INDIRECT BSC FAILED	3A126430
026A 0 305F	00	/305F	ERR IO & ERR WAIT	3A126440
	*		INDIRECT BSC FAILED	3A126450
026B 0 7004	G20C MOX	A240	EXIT TO NEXT ROUTINE	3A126460
026C O FFFF	N200 OC	/FFFF		3A126470
0260 0 0000	N201 OC	/0000		3A126480
026E 0 0001	N202 OC	/0001		3A126490
026F 0 026B	N203 OC	G20C		3A126500
	*			3A126510
	*	TEST	SHORT AND LONG FORM	3A126520
	*	BSI		3A126530

				*					3A126540
				*****	*****	***	*********	********	3A126550
****	**	****	******	*****	*****	***	*********	****************	
CORE		DATA	OR	*LA- (	DPER-				3A126570
AOOR							OPERANOS &		3A1265B0
			******	****	****	***	*********	***********	3A126590
0270				A240	851		N241	STORE AOORESS OF I REG	3A126600
0271				N240	OC		N240	STORE ADDRESS OF I REG	3A126610
0272	0	3060			OC		/3060	ERR IO & ERR WAIT	3A1 26620
- <b></b> -	_			*				8SI SKPO-SHOULO BRNCH	3A126630
0273				N241	OC		/0000	RETURN ADOR FOR MAIN PROG	3A126640
0274					LO		N241	LO RETURN ADDR	3A126650
0275					EOR		N240	ZERO IN RETURN AODR	3A126660
0276					BSC		Z		3A126670
0277	U	3061		_	OC		/3061	ERR 10 & ERR WAIT	3A126680
0370	_		0270	*			ND4 3 C	BSI NOT STORED I REG	3A126690
		440B	0270	W1 4C	BSI	L	N243, &	STORE AOOR OF I REG	3A126700
027A	U	3062		VIAC	DÇ		/3062	ERR IO & ERR WAIT	3A126710
0270	_	2042		•	oc		42043	BSI & OIO NOT BRANCH	3A126720
0278	U	<b>30 63</b>		*	OC		/3063	ERR IO & ERR WAIT BSI SKPO-SHOULO BNCH	3A126730
0276	_	0.74			<b>0</b> C		W1.4C	B31 3KF0-3HOOFO BMCH	3A126740
027C 0270				N242			V1AC	RETURN AGOR FOR MAIN PROG	3A126750
027E				N243	OC LO		/0000 N243	ACTURA AUUN PUK MAJA PRUG	3A126760 3A126770
027F 02B0					EOR 8SC		N242		3A126780
0281					00		Z /3064	ERR 10 & ERR WAIT	3A126790 3A126800
0201	U	3007		*	UC		73004		
				*				8SI NOT STORE I REG	3A126810 3A126820
				*			TEST A	OF INSTR REQUIRED FOR	3A126B30
				*				CONTROL	3A126840
				*			CNROR	CONTROL	3A126850
				*****	****	***	*********	*******	3A126860
0282	٥	C048		A900	LO		F911	LD A NUMBER	3A126870
0283				-,00	STO		F912	EO A NONDER	3A126B80
0284					LO		F913		3A126B90
0285					LD		F912		3A126900
0286	-				EDR		F911		3A126910
02B7					BSC		2		3A126920
0288	0	3065			OC		/3065	ERR 10 & ERR WAIT	3A126930
				*			_	STORE FAILED	3A126940
02B9	0	C047			LO		F91B	CK FIRST PASS SW \$/00020	3A126950
02BA	0	4820			8SC		Z	IS SW ON	3A126960
0288	0	704C			MOX		A2B0	YES GO TO NEXT ROUTINE	3A126970
028C	0	C042			LO		F916	GET 0002	3A1269B0
02B0	0	0043			STO		F91B	STORE /0002	3A126990
028E	0	1810			SRA		16	CLEAR ACC	3A127000
02BF	0	0400	0001		STO	L	/0001	ZERO WITH /0001	3A127010
0291	0	61FF			LOX	1	-1	LO XR 1 WITH -1	3A127020
0292	0	C400	0001		LO	L	/0001	ZERO IN 1800 -1 FOR 1130	3A127030
0294	0	4820			BSC		Z	ZERO FOR 1800	3A127040
0295	0	700F			MOX		G901	1130 CPU	3A127050
0296	0	C03B			LO		F919	1800 P-C LO /0240	3A127060
0297					STO		F903	STO /0240 THIS IS AREA.	3A127070
		0400	0F67		STO	Ł	N8C2	* FUNCTION AND MODIFIER	3A127080
		0400			STO	Ĺ	F004	* FOR READING DATA ENTRY	3A127090
029C	0	003A			STO		F007	* SWITCHES IN 1800	3A127100
0290	0	0836		G902	XIO		F922	SENSE SENSE/PROG SWS	3A127110
029E	0	E037			AND		F923	IGNORE CE SWS. %/FF00D	3A127120
	0	F036			EOR		F923	ZERO WITH /FF00	3A127130
029F	***	****	******	*****	****	***	********	****************	
		DATA	OR	*LA-	DPER-				3A127150
		V-1-			ATION	FT	OPERANDS &	REMARKS IDESEQ# AT RIGHT	3A127160
****			RUCTION	*8FF '					
***** CORE AODR		INST				***	********	****************	3A127170
***** CORE AOOR *****	**	INST	******				6900,&-	**************************************	3A127170 3A1271B0
***** CORE AOOR *****	0	INST ***** 4C1B	******		*****				
***** CORE AOOR *****	0	INST ***** 4C1B F033	******		***** BSC		G <b>900,&amp;</b> -		3A1271B0

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PROG ID

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	*				* EQUAL TO /EEDO	24127220
02A4 0 70F8	•	MOX		G902	* EQUAL TO /FF00 REPEAT TEST	3A127220 3A127230
02A5 0 C020	G901	LD		F920	1130 CPU LO /3A00	3A127240
0246 0 0022	0,01	STO		F903	STO /3AOO THIS IS	3A127250
02A7 0 0400 0F67		STO	L	N8C2	* AREA- FUNCTION &	3A127260
02A9 0 0400 0F03		STO	Ĺ	F004	* MODIFIER FOR READING	3A127270
02A8 0 0028		STÓ	_	F007	* OATA ENTRY SWITCHES	3A127280
02AC 0 0818	6900	XIO		F902	TEST DATA ENTRY SWS	3A127290
02A0 0 C022		LD		F917	* FOR /FFFF	3A127300
02AE O FO1F		EOR		F915		3A127310
02AF 0 4C18 0284		8SC	L	-3,100x	BRANCH ON ZERO	3A127320
0281 O FO1C		EOR		F915		3A127330
0282 0 3067		DC		/3067	ERR ID & ERR WAIT	3A127340
	*				OATA ENTRY SWS NDT	3A127350
0000 0 7000	*				EQUAL TO /FFFF	3A127360
0283 0 70F8	×001	MOX		G9 00		3A127370
0284 0 3001	X001	oc		/3001	SET SENSE/PROG ANO	3A127380
	*				OATA ENTRY SWS TO	3A127390
0285 0 C013	•	LD		F903	ZEROS ANO PUSH START	3A127400
0286 O FOIC		EOR		F920	CK FOR 1130 \$3A00-1130m	3A127410
0287 0 4C18 028F		8SC	L	6904,&-	XFER IF 1130	3A127420
0289 0 081A	6903	X10	_	F922	TEST SENSE/PROG SWS	3A127430 3A127440
028A 0 E018	0,03	ANO		F923	IGNORE CE SWS. %/FF00=	3A127450
0288 0 4C18 028F		8 S C	L	G904. &-	BRANCH 1F OK	3A127460
0280 0 3068		OC.	-	/3068	ERR 10 & ERR WAIT	3A127470
	*				SENSE/PROG SWS NOT	3A127480
	*				* EQUAL TO /0000	3A127490
028E 0 70FA		MOX		G903	REPEAT TEST	3A127500
028F 0 0808	6904	XIO		F902	TEST DATA ENTRY SWS	3A127510
02C0 0 C00F		LO.		F917	* FOR /0000	3A127520
0201 0 4018 0205		8SC	L	×003,E-	8RANCH ON ZERO	3A127530
02C3 0 3069		oc		/3069	ERR ID & ERR WAIT	3A127540
	*				OATA ENTRY SWITCHES	3A127550
0304 0 7054	*				* NOT EQ /0000	3A127560
02C4 0 70FA 02C5 0 3002	×003	MOX		6904	55T 01T 011T0150 10	3A127570
0205 0 3002	X003	<b>0</b> C		/3002	SET 81T SWITCHES AS	3A127580
	*				* OESIRED FOR RUN	3A127590
0206 0 7011	•	MOX		A280	* ANO PUSH START EXIT TO NEXT ROUTINE	3A127600
0208 0000		855	E	AZ 60	EXIL IO MEXI KOOLIME	3A127610 3A127620
0208 0 0200	F902	oc oc	_	F917		3A127630
0209 0 0240	F903	OC.		/0240	EQUAL /3A00 IN 1130	3A127640
02CA 0 02CA	F904	OC.		F904	24072 / 5800 10 1150	3A127650
0208 0 0200	F911	OC		F912		3A127660
0200 0 0000	F912	OC		/0000		3A127670
02CO 0 0000	F913	OC.		/0000		3A127680
O2CE O FFFF	F915	OC		/FFFF		3A127690
02CF 0 0002	F916	oc		/0002		3A127700
0200 0 0000	F917	OC.		/0000		3A127710
0201 0 0000	F918	OC		/0000		3A127720
0202 0 0240	F919	OC.		/0240	1800 READ 81T SWS CONSTANT	
0203 0 3400	F920	00		/3A00	1130 READ 81T SWS CONSTANT	
0204 0 0000 0205 0 0760	F922	00		0	SENSE SENSE/PROG CON	3A127750
0205 0 0760 0206 0 FF00	5022	00		/0760 /EE00		3A127760
0207 0 0240	F923 F007	0C 0C		/FF00 /0240	EOUAL /3400 IN 1120	3A127770
020, 0 0240			***		EQUAL /3A00 IN 1130	3A127780
	*			· · · · · · · · · · · · · · · · · · ·	······································	3A127790 3A127800
	*			REGIN	ING OF SECTION OF	3A127810
	*				AM USING COMMON ERROR	3A127820
	*				OL ROUTINE	3A127830
	*					3A127840
	****	****	***	*******	******	3A127850
	****	****	***	********	******	3A127860
	*					3A127870
	*			TEST	OF SRA OPERATION	3A127880
	*					3A127890

02JAN66 01MAY66 15NOV66 15FE868 26AUG68

415490 415490C 419643 420403 420403A

EC NO.

****	**	****	******	*****	*****	***	*******	********************	3A1279
CORE		UM 1	M UK	TLA-	UPPR-				241220
AOUR		INS	TRUCTION	*RF:	ATTON	FT	OPERANDS &	REMARKS IDESEQ# AT RIGHT	
****	**	****	*******	*****	****	***	*******	***********************	341279.
0208	0	CO 39		A280	10		N280		
	-	1810		AE 00	SRA				3A1279
					OCC		16		3A1279
0200	×	4400	020F 0F69		920	L	6280,6-	BRANCH ON ZERO	3A1279
							F000	SRA 16 FAILED	3A1279
0206	0	306A			OC		/306A	FRR IO	3A12799
DZDF	0	4400	OFC4	G280	128	L	F005	CK LOCK ON ERROR	3A1280
02 E I	0	70F6			MOX		A280	LOOP	341280
				****	****	***		*******	
D2E2	0	CO30		AZAI	10		NOOT	10 (0000	3A1280
D2 E 3	0	180F			SPA		16	10 / 6000	3A1280
D2 F4	0	F02F			EUB		N202	ACM AF/OUGI	3A1280
			02EA		050		NZ 0Z	ZEKU MITH /0001	3A1280
			0F69		920	L	6281.6-	BRANCH ON ZERO	3A1280
					821	L	F000	NOW A#/0001 ZERO WITH /0001 BRANCH ON ZERO SRA 15 FAILEO ERP 10	3A1280
		3068			DC		/3068	ERP IO	3A1280
			OFC4	G281	8\$1	L	F 0 0 5		3A12809
DZEC	0	70F 5			MOX		A281	LOOP	3A12810
				****	****	***		******	
03SC	0	C027		A282	LO			LO /AAAA	3A12811
		1801			SRA				3A12812
		F026			EOR		130.	7500 HIT 1575	3A12813
			02F5				U504	NOW A#/5555 ZERO WITH /5555 BRANCH ON ZERO SRA 1 FAILEO	3A12814
							G282,&-	BRANCH ON ZERO	3A12815
			0F69		851	L	F000	SRA 1 FAILEO	3A12816
		306C			OC		/306C	ERR 10	3A12817
			OFC4	G282	851	L	F005	CK LOCK ON ERROR	3A12818
)2F7	0	70F5			MOX		A282	LOOP	3A12819
				****	****	***		. T. i i	3A12820
2F8	0	C010		A283				LD /5555	
		1801			SRA			1011 11 10 11	3A12821
		FOIC			SUM			NUM A#/ZAAA	3A12822
			0200		EOR		N285	ZERO WITH /ZAAA	3A12823
			0300				G283, &-	8RANCH ON ZERO	3A12824
			OF 69		128	L	F000	SRA 1 FAILEO ERR IO	3A12825
		3060			<b>0</b> C		/3060	ERR IO	3A12826
300	0	4400	OFC4	G283	128	L	F005	CK LOCK ON ERROR	3A12827
302	0	70F5			MOX		A283	LOOP	3A12828
				****	****	***		*******	3A12829
303	0	COOF		A284			N281	LO /8000	
		1801			SRA		1	NOW A# /4000	3A12830
		1802					2		3A12831
		1804			SRA Sra			A# /1000	3A12832
		1808			JRA CDA		4	A#/0100	3A12833
			•		SRA		8	A # /0001 ZERD WITH /0001 APANCH ON ZERG	3A12834
		F008			EOR		N282 G284, &-	ZERD WITH /0001	3A12835
			030E						3A12836
308	0	4400	0F 69				F000	COM8 SRA FAILEO	3A12837
300	0	306E			OC		/306E	ERR 10	3A12838
			OFC4	6284	851	L	F005	CK LOCK ON ERROR	
		70F2		J_ J ,	MOX	-	A284		3A12839
		7006			MOX			LOOP	3A12840
				11200			A2CO	EXIT TO NEXT ROUTINE	3A12841
312				N280	_		/FFFF		3A12842
313				N281	<b>0</b> C		/8000		3A12843
314				N282	00		/0001		3A12844
315	0	AAAA		N283	OC		/AAAA		3A12845
316	0	5555		N284	OC		/5555		3A12846
317	0	2444		N285	OC.		/ZAAA		
•	-			*					3A12847
				*			TCCT 4	SE AND CHRESTON	3A12848
							1521 (	OF AND FUNCTION	3A12849
				*					3A12850
				****	*****	***	********	***********	3A1285I
****	**	****	******	****	*****	***	*********	****************	3A12852
ORE		OATA		*LA-					3A12853
DOR		INST	RUCTION	*8FI	ATION	FT	OPERANOS &	REMARKS ID&SEQ# AT RIGHT	2412054
****	**	****	******	****	*****	***	******	**************	3412037
318				AZCO					
	•	- UE 7		-LUU	LU		N2CO	LO /0000	3A12856
319		E029			ANO		NZCO	ANO /0000	3A12857

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EC NO. 415490 415490C 419643 420403 420403A

					•	
031A 0 4C18 031F		8 S C	L	G2C0, 6-	BRANCH ON ZERD	3A12858D
031C 0 4400 0F69		8 S I	L	F000	AND OF D AND FAILED	3A128590
031E 0 306F		DC		/306F	ERR 10	3A128600
031F 0 4400 0FC4	G2CO	8SI	L	F005	CK LOCK ON ERROR	3A128610
0321 0 70F6	****	MOX		A2CO	LDOP	3A12862D
0322 0 CO1F	A2C4	LD		N2CO	LO /00D0	3A12863D 3A128640
0323 0 E01F		ANO		N2C2	LD /FFFF	3A12865D
0324 D 4C18 0329		8 S C	L	G2C4, 6-	BRANCH DN ZERO	3A128660
0326 0 4400 OF69		BSI	L	F000	AND OF D AND 1 FAILED	3A128670
0328 0 3070		DC		/3070	ERR 10	3A128680
0329 0 4400 0FC4	G2C4	BSI	L	F005	CK LOCK ON ERROR	3A12869D
0328 0 70F6	****	MOX ****	***	A2C4	LDOP *******	3A128700 3A12871D
032C D C016		LD		N2C2	LD /FFFF	3A128720
0320 0 E014		ANO		N2CD	AND /ODOD	3A128730
032E 0 4C18 0333		8 S C	L	G2C8, &-	BRANCH ON ZERO	3A128740
0330 0 4400 0F69		8S I	L	F000	AND OF 1 AND O FAILED	3A128750
0332 0 3071	5555	DC		/3071	ERR 10	3A12876D
0333 0 4400 0FC4 0335 0 70F6	G2C8	8SI Mox	L	FOD5 A2C8	CK LOCK DN ERRDR	3A12877D
0333 0 101 0	****		***		L00P	3A128780
0336 0 COOC	AZCC	LO		N2C2	LO /FFFF	3A128790 3A128800
0337 O E008		ANO		N2C2	AND /FFFF	3A128810
0338 0 F00A		EOR		N2C2	ZERO WITH /FFFF	3A12882D
0339 0.4C18 033E		8SC	L	G2CC+&-	BRANCH DN ZERO	3A128830
033B 0 4400 0F69 0330 0 3072		851	L	F000	AND OF 1 AND 1 FAILED	3A128840
033E 0 4400 OFC4	G2CC	DC 8SI	L	/3072	ERR ID	3A128850
0340 0 70F5	6266	MOX	_	F005 A2CC	CK LDCK ON ERROR	3A128860
0341 0 7002		MOX		A300	EXIT TO NEXT ROUTINE	3A128870 3A128880
0342 0 0000	N2CO	OC		/0000	THE TO MEAT ROUTING	3A128890
0343 O FFFF	N2C2	DC		/FFFF		3A128900
	*					3A128910
	*			TEST	DF OR FUNCTION	3A128920
•	*	****	***			3A128930
********	*	***** ****	***:	*********	*****	3A128930
CORE DATA OR	* ***** *****	***** DPER-	***	********** *********	******************	3A128930 3A128940 3A12895D 3A128960
CORE OATA OR AODR INSTRUCTION	* *****  *****  *LA- (	***** DPER- ATION	***: FT	**************************************	**************************************	3A128930 3A128940 3A12895D 3A128960
CORE OATA OR ADDR INSTRUCTION	* *****  *****  *8EL /	***** DPER- ATION ****	***: FT	**************************************	**************************************	3A128930 3A128940 3A12895D 3A128960 3A128970 3A128980
CORE OATA OR AODR INSTRUCTION ************************************	* *****  *****  *LA- (	DPER- ATION *****	***: FT	**************************************	REMARKS IOESEQ# AT RIGHT	3A128930 3A128940 3A12895D 3A128960 3A128970 3A128980 3A12899D
CORE OATA OR AODR INSTRUCTION ************************************	* *****  *****  *8EL /	PPER- ATION ***** LO OR	***: FT ***:	**************************************	**************************************	3A128930 3A128940 3A12895D 3A128960 3A128970 3A128980 3A12899D 3A129000
CORE OATA OR AODR INSTRUCTION ************************************	* *****  *****  *8EL /	DPER- ATION *****	***: FT	**************************************	REMARKS IOESEQ# AT RIGHT LD /0000 OR /DOOD BRANCH DN ZERO	3A128930 3A128940 3A128950 3A128960 3A128970 3A128980 3A128990 3A129000 3A129010
CORE OATA OR AODR INSTRUCTION ************************************	* *****  *****  *8EL /	DPER- ATION ****** LO OR 8SC	***: FT ***:	**************************************	**************************************	3A128930 3A128940 3A12895D 3A128960 3A128970 3A128980 3A12899D 3A129000
CORE OATA OR AODR INSTRUCTION ************************************	* *****  *****  *8EL /	DPER- ATION ****** LO OR 8SC 8SI OC 8SI	***: FT ***:	OPERANDS & *************** N300 N300 G300, ε- F000 /3073 F005	REMARKS IO&SEQ# AT RIGHT LD /0000 OR /D00D BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR	3A128930 3A128950 3A128950 3A128960 3A128970 3A128980 3A128990 3A129000 3A129010 3A129020 3A129030 3A129040
CORE OATA OR AODR INSTRUCTION ************************************	* ***** ****** *LA- ( *8EL / ****** A300	******* DPER- ATION ***** LO OR 8SC 8SI OC 8SI MOX	FT ****	**************************************	REMARKS IOGSEQ# AT RIGHT LD /0000 OR /D00D BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP	3A128930 3A128940 3A128950 3A128960 3A128970 3A128980 3A128990 3A129000 3A129010 3A129020 3A129030 3A129040 3A129050
CORE OATA OR ADDR INSTRUCTION ************************************	* ****** ****** *LA- ( *8EL / ****** A300	****** DPER- ATION **** LO OR 8SC 8SI OC 8SI MOX ****	FT ****	**************************************	REMARKS IOGSEQ# AT RIGHT LD /OOOO OR /DOOD BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP	3A128930 3A128940 3A128950 3A128960 3A128970 3A128980 3A128990 3A129000 3A129010 3A129020 3A129030 3A129040 3A129050 3A129060
CORE OATA OR AODR INSTRUCTION ************************************	* ***** ****** *LA- ( *8EL / ****** A300	******* DPER- ATION ***** LO OR 8SC 8SI OC 8SI MOX	FT ****	**************************************	REMARKS IOESEQ# AT RIGHT LD /0000 OR /D00D BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP	3A128930 3A128940 3A128950 3A128960 3A128980 3A128990 3A129000 3A129010 3A129020 3A129030 3A129030 3A129050 3A129050 3A129060 3A129070
CORE OATA OR ADDR INSTRUCTION ************************************	* ****** ****** *LA- ( *8EL / ****** A300	****** DPER- ATION ***** LO OR 8SC 8SI OC 8SI MOX **** LO	FT ****	**************************************	REMARKS IOESEQ# AT RIGHT LD /0000 OR /D00D BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP LO /0000 OR /FFFF	3A128930 3A128940 3A128950 3A128960 3A128980 3A128990 3A129000 3A129010 3A129020 3A129030 3A129040 3A129060 3A129060 3A129060 3A129080
CORE OATA OR ADDR INSTRUCTION ************************************	* ****** ****** *LA- ( *8EL / ****** A300	****** DPER- ATION ***** LO OR 8SC 8SI OC 8SI MOX **** LO OR	FT ****	**************************************	REMARKS IOESEQ# AT RIGHT LD /0000 OR /D00D BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP	3A128930 3A128940 3A128950 3A128960 3A128980 3A128990 3A129000 3A129010 3A129020 3A129030 3A129030 3A129050 3A129050 3A129060 3A129070
CORE OATA OR ADDR INSTRUCTION ************************************	* ****** ****** *LA- ( *8EL / ****** A300	***** DPER-ATION ***** LO OR 8SC 8SI OC 8SI MOX **** LO OR EOR 8SC	FT	**************************************	REMARKS IOGSEQ# AT RIGHT LD /OOOO OR /DOOD BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP LO /OOOO OR /FFFF ZERD WITH /FFFF BRANCH ON ZERO OR OF O AND 1 FAILEO	3A128930 3A128950 3A128950 3A128960 3A128970 3A128980 3A128990 3A129000 3A129010 3A129020 3A129030 3A129040 3A129050 3A129060 3A129070 3A129080 3A129080
CORE OATA OR ADDR INSTRUCTION ************************************	**************************************	***** DPER-ATION ***** LO OR 8SC 8SI OC 8SI MOX **** LO OR EOR 8SC 8SI OC	**** FT** LL L *** LL	**************************************	REMARKS IOESEQ# AT RIGHT LD /OOOO OR /DOOD BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP LOOOO OR /FFFF ZERD WITH /FFFF BRANCH ON ZERO OR OF O AND 1 FAILEO ERR 10	3A128930 3A128940 3A128950 3A128960 3A128980 3A128990 3A129000 3A129010 3A129020 3A129030 3A129040 3A129050 3A129050 3A129060 3A129080 3A129080 3A129080 3A129080 3A129080 3A129080 3A129080 3A129100 3A129110 3A129110 3A129120
CORE OATA OR ADDR INSTRUCTION ************************************	* ****** ****** *LA- ( *8EL / ****** A300	***** DPER-ATION ***** LO 0R 8SC 8SI 0C 8SI 0C 8SI 0C 8SI 0R EOR EOR 8SI 0C 8SI	FT	**************************************	REMARKS IOESEQ# AT RIGHT LD /OOOD OR /DOOD BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP LOPE LO /OOOO OR /FFFF ZERD WITH /FFFF BRANCH ON ZERO OR OF O AND 1 FAILEO ERR 10 CHECK LDOP SWITCH	3A128930 3A128940 3A128950 3A128960 3A128980 3A12899D 3A129000 3A129010 3A129020 3A129030 3A129040 3A129050 3A129050 3A129060 3A129070 3A129080 3A129090 3A129100 3A129110 3A129110 3A12913D
CORE OATA OR ADDR INSTRUCTION ************************************	**************************************	***** DPER-ATION ***** LO 8SC 8SI OC 8SI MOX **** LO R EOR 8SC 8SI OC 8SI MOX ****	**** FT** LL L *** LL	OPER ANDS & ***********************************	REMARKS IO&SEQ# AT RIGHT LD /0000 OR /D00D BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP LO /0000 OR /FFFF ZERD WITH /FFFF BRANCH ON ZERO OR OF O AND 1 FAILEO ERR 10 CHECK LDOP SWITCH LOOP	3A128930 3A128950 3A128950 3A128960 3A128970 3A128980 3A128990 3A129000 3A129010 3A129030 3A129040 3A129050 3A129050 3A129070 3A129070 3A129070 3A1291100 3A1291100 3A1291100 3A129130 3A129130 3A129130 3A129140
CORE OATA OR ADDR INSTRUCTION ************************************	******* *LA- ( *BEL / *A300 G300 ****** A302	***** DPER-ATION ***** LO 8SC 8SI OC 8SI MOX **** LO R EOR 8SC 8SI OC 8SI MOX ****	FT ****  L L L ***	OPER ANDS & ***********************************	REMARKS IOESEQ# AT RIGHT LD /OOOD OR /DOOD BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP LOPE LO /OOOO OR /FFFF ZERD WITH /FFFF BRANCH ON ZERO OR OF O AND 1 FAILEO ERR 10 CHECK LDOP SWITCH	3A128930 3A128950 3A128950 3A128960 3A128970 3A128980 3A128990 3A129000 3A129010 3A129020 3A129030 3A129040 3A129050 3A129060 3A129070 3A129080 3A129100 3A129110 3A129110 3A129120 3A129120 3A129120 3A129120
CORE OATA OR ADDR INSTRUCTION ************************************	* ***** ****** **BEL / ***** A300 G300 ***** G302	***** DPER-ATION ***** LO 8SC 8SI OC 8SI MOX **** LO EDR 8SC 8SI OC 8SI MOX *****	FT ****  L L L ***	OPERANDS & ***********************************	REMARKS IO&SEQ# AT RIGHT  LD /0000 OR /D00D  BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP  LO /0000 OR /FFF ZERD WITH /FFF BRANCH ON ZERO OR OF O AND 1 FAILEO ERR 10 CHECK LDOP SWITCH LOOP	3A128930 3A128950 3A128950 3A128960 3A128970 3A128980 3A128990 3A129000 3A129010 3A129030 3A129040 3A129050 3A129050 3A129070 3A129070 3A129070 3A1291100 3A1291100 3A1291100 3A129130 3A129130 3A129130 3A129140
CORE OATA OR ADDR INSTRUCTION ************************************	* ***** ****** **BEL / ***** A300 G300 ***** G302	****** DPER-ATION ***** LOR 8SCI 0C 8SCI 0C 8SCI 0R EOR 8SCI 0R EOR EOR LO BSCI 0C EOR EOR EOR	FT *****	**************************************	REMARKS IOESEQ# AT RIGHT  LD /OOOO OR /DOOD BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP LO /OOOO OR /FFFF ZERD WITH /FFFF BRANCH ON ZERO OR OF O AND 1 FAILEO ERR 10 CHECK LDOP SWITCH LOOP LD /FFFF DR /FFFF EOR 1N /FFFF	3A128930 3A128950 3A128950 3A128960 3A128980 3A128980 3A129090 3A129010 3A129010 3A129030 3A129030 3A129040 3A129050 3A129060 3A129070 3A129080 3A129190 3A129110 3A129110 3A129110 3A129130 3A129150 3A129150 3A129150 3A129150 3A129170 3A129180
CORE OATA OR ADDR INSTRUCTION ************************************	* ***** ****** **BEL / ***** A300 G300 ***** G302	##### DPERON #### LOR BSCI BSCI BSCI BSCI BSCI BSCI BSCI BSCI	***	OPER ANDS & *************** N300 N300 G300, &- F000 /3073 F005 A300 ************ N300 N302 N302 N302 G302, &- F000 /3074 F005 A302 ************** N302 N302 N302 N302 N302 G304, &-	REMARKS IOESEQ# AT RIGHT LD /0000 OR /D00D BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP LO /0000 OR /FFFF ZERD WITH /FFFF BRANCH ON ZERO OR OF O AND 1 FAILEO ERR 10 CHECK LDOP SWITCH LOOP LD /FFFF DR /FFFF EOR IN /FFFF BRANCH DN ZERO	3A128930 3A128950 3A128950 3A128960 3A128970 3A128980 3A128980 3A129090 3A129010 3A129030 3A129040 3A129050 3A129060 3A129070 3A129070 3A129180 3A129130 3A129110 3A129110 3A129150 3A129150 3A129150 3A129150 3A129150 3A129160 3A129180 3A129180 3A129190
CORE OATA OR ADDR INSTRUCTION ************************************	* ***** ****** **BEL / ***** A300 G300 ***** G302	***** DPERON **** LOR 8SCI 0SSI 8SCI 0R 8SCI 8SCI 8SCI 8SCI 8SCI 8SCI 8SCI 8SCI	FT *****	OPER ANDS & ***********************************	REMARKS IOSSEQ# AT RIGHT  LD /0000 OR /D00D  BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP  LO /0000 OR /FFFF ZERD WITH /FFFF BRANCH ON ZERO OR OF O AND 1 FAILEO ERR 10 CHECK LDOP SWITCH LOOP LOOP LOOP LOOP LO /FFFF DR /FFFF BRANCH ON ZERO OR OF O AND 1 FAILEO ERR 10 CHECK LDOP SWITCH LOOP LOOP LOOP LOOP LOOP LOOP BRANCH DN ZERO OR OF 1 ANO 1 FAILEO OR OF 1 ANO 1 FAILEO	3A128930 3A128950 3A128950 3A128960 3A128970 3A128980 3A128980 3A129090 3A129010 3A129030 3A129040 3A129050 3A129050 3A129070 3A129070 3A129130
CORE OATA OR ADDR INSTRUCTION ************************************	* ***** ****** **BEL / ***** A300 G300 ***** G302	****** DPER	** F**	**************************************	REMARKS IOSSEQ# AT RIGHT  LD /0000 OR /D00D BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP  LO /0000 OR /FFF ZERD WITH /FFF BRANCH ON ZERO OR OF O AND 1 FAILEO ERR 10 CHECK LDOP SWITCH LOOP LODP  LD /FFF DR /FFF EOR 1N /FFFF BRANCH DN ZERO OR OF 1 ANO 1 FAILEO ERR IO CHECK LDOP SWITCH LOOP LOOP LOOP LOOP LOOP LOOP LOOP LOO	3A128930 3A128940 3A128950 3A128960 3A128980 3A128980 3A129090 3A129000 3A129030 3A129040 3A129050 3A129050 3A129060 3A129070 3A129080 3A129180 3A129190 3A129190 3A129190
CORE OATA OR ADDR INSTRUCTION ************************************	******* ******* **BEL / ******* A300 G300 ****** A302	***** DPERON **** LOR 8SCI 0SSI 8SCI 0R 8SCI 8SCI 8SCI 8SCI 8SCI 8SCI 8SCI 8SCI	***	OPER ANDS & ***********************************	REMARKS IOSSEQ# AT RIGHT  LD /0000 OR /D00D  BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP  LO /0000 OR /FFFF ZERD WITH /FFFF BRANCH ON ZERO OR OF O AND 1 FAILEO ERR 10 CHECK LDOP SWITCH LOOP LOOP LOOP LOOP LO /FFFF DR /FFFF BRANCH ON ZERO OR OF O AND 1 FAILEO ERR 10 CHECK LDOP SWITCH LOOP LOOP LOOP LOOP LOOP LOOP BRANCH DN ZERO OR OF 1 ANO 1 FAILEO OR OF 1 ANO 1 FAILEO	3A128930 3A128940 3A128950 3A128960 3A128970 3A128980 3A128990 3A129010 3A129020 3A129030 3A129040 3A129050 3A129060 3A129070 3A129070 3A129080 3A129100 3A129110 3A129120 3A129170 3A129180 3A129180 3A129180 3A129180 3A129180 3A129180 3A129180 3A129200 3A129200 3A129200
CORE OATA OR ADDR INSTRUCTION ************************************	****** **A-( **BEL / ***** *A300  G300 ***** A302  G302 ***** A304	#### DPER ## ATION #### LOR 8SSI 0C 8SSI 0C 8SSI 1 W #### LOR EDSC 1 W #### LOR EDSC 1 W EDSC	** F**	**************************************	REMARKS IOGSEQ# AT RIGHT  LD /OOOO OR /DOOD BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP LO /OOOO OR /FFFF ZERD WITH /FFFF BRANCH ON ZERO OR OF O AND 1 FAILEO ERR 10 CHECK LDOP SWITCH LOOP LD /FFFF DR /FFFF EOR IN /FFFF BRANCH ON ZERO OR OF 1 ANO 1 FAILEO ERR ID CK LOCK ON ERRCR	3A128930 3A128940 3A128950 3A128960 3A128980 3A128980 3A129090 3A129000 3A129030 3A129040 3A129050 3A129050 3A129060 3A129070 3A129080 3A129180 3A129190 3A129190 3A129190
CORE OATA OR ADDR INSTRUCTION ************************************	******* ******* **BEL / ******* A300 G300 ****** A302	***** DPER-ATION ***** LOR 8SCI OR EOR ESSCI OR EOR ESSCI OR EOR EOR EOR EOR EOR EOR EOR EOR EOR E	** F**	**************************************	REMARKS IOSSEQ# AT RIGHT  LD /0000 OR /DOOD  BRANCH DN ZERO DR OF O ANO O FAILEO ERR IO CK LDCK ON ERROR LDDP  LO /0000 OR /FFFF ZERD WITH /FFFF BRANCH ON ZERO OR OF O AND 1 FAILEO ERR 10 CHECK LDOP SWITCH LOOP  LD /FFFF EOR 1N /FFFF EOR 1N /FFFF BRANCH DN ZERO OR OF 1 ANO 1 FAILEO ERR ID CK LOCK ON ERROR	3A128930 3A128950 3A128950 3A128960 3A128970 3A128980 3A129090 3A129000 3A129030 3A129030 3A129030 3A129050 3A129050 3A129050 3A129050 3A129170 3A129180 3A129170 3A129180 3A129170 3A129180 3A129170 3A129180 3A129170 3A129180 3A129190 3A129190 3A129190 3A129190 3A129130

0366	۵	FFFF	<b>.</b>	N302	OC		/FFFF		
	Ĭ			*	00		71171		3A129260
				*			TEST	OF RTE 16 OPERATION	3A129270
				*				OF RIE TO OPERATION	3A129280
				****	****	***	*******	*******	3A129290
****	**	****	******	*****	****	***	********	****************	3A129300
CORE		DAT	A OR	*LA-	OPER-				
AOOR		INS	TRUCTION	#8FI	ATION	FT	OPERANOS	& REMARKS   IDESEQ# AT RIGHT	3A129320
****	**	****	******	*****	****	***	*******	*****************	34129330
0367	0	CD16	,	A340	10		N340	LO /0000	
		1800			RTE		16	PLACE /0000 IN Q REG	3A129350
		CO15			LO		N341	LO /FFFF	3A129360 3A129370
036A	0	1800	1		RTE		16	NOW A#/0000 Q#/FFFF	
			037D		850	L	G340,&-	BRANCH ON ZERO	3A129380
			0F69		851	Ĺ	-	ALL O THRU Q FAILEO	3A129390
		3076			00	-	/3076	ERR 10	3A129400
			0F98	G340		L		CK LOCK ON ERROR	3A129410
		70F4			MOX	-	A340	LOOP	3A129420
		1800			RTE		16	NOW A#/FFFF Q#/0000	3A129430
		FOOA			EOR		N341		3A129440
			037A		8 S C	L	6342,6-	ZERO WITH /FFFF	3A129450
			0F69		851	_		BRANCH ON ZERO	3A129460
		3077			0C 921	L		ALL 1 THRU Q FAILED	3A129470
			OFC4	G342			/3077	ERR 10	3A129480
		70E A		6342	851	L	<del>-</del>	CK LOCK ON ERROR	3A129490
	-	7002			MOX		A340	LOOP	3A129500
	_	0000		N34A	MOX		A380	EXIT TO NEXT ROUTINE	3A129510
	_	FFFF		N340 N341	00		/0000		3A129520
0311	٠	FFFF		*	oc		/FFFF		3A129530
				*			7567	AF 507 ORFOLTION	3A129540
				Ţ			1621	OF SRT OPERATION	3A129550
				****				******	3A129560
กลลก	Λ	C055		A380	_				3A129570
		18A0		A 3 6 U	LO SRT		N380	LO /8000	3A129580
		F054					32	NOW A#/FFFF Q#/FFFF	3A129590
			0388		E OR		N381	EOR IN /FFFF	3A129600
			0569		8SC	L	G380,&-	BRANCH ON ZERO	3A129610
0387			01 09		8 S I	Ł	F000	SRT 32-A REG FAILED	3A129620
			0F98	G380		L	/3078 F00E	ERR 10	3A129630
		70F5	0170	6360	MOX	L	A380	CK LOCK ON ERROR	3A129640
	_	1800			RTE		16	LOOP	3A129650
D38C					EOR			NOW A#/FFFF Q#/0000	3A12966D
	_		0392		8 S C		N381	EOR IN /FFFF	3A129670
			0542 0F69		85 I	L	G382,&- F000	BRANCH ON ZERO	3A129680
0391			0.07		0C	۲.	/3079	SRT 32-Q REG FAILEO	3A129690
_		-	OFC4	G382				ERR 10	3A129700
3394			UFC4	6362	8SI Mox	L	F005	CK LOCK ON ERROR	3A129710
3374	•	1000		****			C85A	LOOP	3A129720
0395	^	C042		A384					3A129730
3396				A 2 0 T	LO		N382	LO /4000	3A129740
		-	039C		SRT		32	NOW A#/0000 Q#/0000	3A129750
			054C 0F69		8 S C	L	G384,&-	BRANCH ON ZERO	3A129760
398			UF69		8S I	L	F000	SRT 32-A REG FAILEO	3A129770
		-	OFC4	C364	30		/307A	ERR 10	3A129780
39E			UFU4	G384	851	L	F005	CK LOCK ON ERROR	3A129790
					MOX		A384	LOOP	3A129800
)39F			0345		RTE		16	NOW A#/0000 Q#/0000	3A12981D
			03A5		8SC	L	G386, &-	BRANCH ON ZERO	3A129820
		440D	UF 69			L	F000	SRT 32-Q REG FAILEO	3A129830
344			0554	62.64	00		/3078	ERR 10	3A129840
		4400	UFLA	G386		Ł	F005	CK LOCK ON ERROR	3A129850
3A7	U	/0E 0			MOX		A384	LOOP	3A129860
	_							*****	3A129870
3A8				A388	F0		N383	LO /5555	3A129880
3A9	_				SRT		15	NOW A#/0000 Q#/0000	3A129890
	0						G388, &-	BRANCH ON ZERO	3 <b>A129</b> 900
BAE			NE 4Q		851	L	F000	SRT 15-A REG FAILED	3A129910
3AC	0		01 07						
3AC	0			G388	DC 8S1		/307C F00E	ERR 10 CK LOCK ON ERROR	3A12992D 3A129930

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			,			
0381 0 70F6		MOX		A388	LOOP	3A129940
0382 0 18D0		RTE		16	NDW A#/AAAA 0#/0000	CA129950
0383 0 FC26		EOR		N384	ZERO WITH /AAAA BRANCH ON ZERO	3A129960 3A129970
0384 0 4C18 0389 0386 0 4400 0F69			L L	G38A,&- F000	SRT 15-0 REG FAILEO	3A129980
0388 0 3070		OC	-	/3070	ERR 10	3A129990
0389 0 4400 OFC4	G38A	85!	L	F005	CK LOCK ON ERROR	3A130000
0388 0 70EC		HOX		A388	LOOP	3A130010
					*****	3A130020
		***** OPER-	**	*********	****************	3A130040
CORE DATA DR ADDR INSTRUCTION	*RFI	ATION	FΤ	OPERANDS &	REMARKS 10&SEQ# AT RIGHT	
*********	*****	*****	**	*******	*******	
038C 0 CO1C	A38C	LO		N383	LD /5555	3A130070
038D 0 1880		SRT		0	NOW A#/5555 0#/0000	3A130080
038E 0 1882		SRT		2	NOW A#/1555 0#/4000 /0155 /5400	3A130090 3A130100
038F 0 1884 03C0 0 1886		SRT SRT		6	/0005 /5550	3A130110
03C1 0 1888		SRT		8	/0000 /0555	3A130120
03C2 0 188A		SRT		10	/0000 /0001	3A130130
0303 0 4018 0308		8 <b>S</b> C	L	G38C,&-	BRANCH ON ZERO	3A130140
03C5 0 4400 0F69		851	L	F000	SERIES SRT FAILEO ERR 10	3A130150 3A130160
03C7 0 307E 03C8 0 4400 0F98	G38C	0C 8\$1	L	/307E F00E	CK LOCK ON ERROR	3A130170
03CA 0 70F1	0300	MDX	-	A38C	LOOP	3A130180
03C8 0 18D0		RTE		16	NOW A#/0001 Q#/0000	3A130190
03CC 0 F00E		E DR		N385	ZERO WITH /0001	3A130200
03CD 0 4C18 0302		8SC	L	G38E,&-	BRANCH ON ZERO	3A130210 3A130220
03CF 0 4400 0F69 03Dl 0 307F		851 0C	L	F000 /307F	SERIES SRT FAILEO ERR IO	3A130230
03D2 0 440D 0FC4	G38E	851	L	F005	CK LOCK ON ERROR	3A130240
03D4 0 70E7	0300	MOX	-	A38C	LOOP	3A130250
0305 0 7006		MOX		A3C0	EXIT TO NEXT ROUTINE	3A130260
0306 0 800D	N380	OC.		/8000		3A130270 3A130280
03D7 0 FFFF	N381	DC DC		/FFFF /4000		3A130290
03D8 0 4000 0309 0 5555	N382 N383	DC		/5555		3A130300
O3DA O AAAA	N384	oc		/AAAA		3A130310
0308 0 0001	N385	OC		/0001		3A130320
	*				OF DIE ODERATION	3A130330 3A130340
	*			1521	OF RTE OPERATION	3A130350
	****	*****	***	******	******	3A130360
O3DC O CO2F	A3C O			N3C1	LD /AAAA	3A130370
0300 0 1800		RTE		16	NDW A#/0000 Q#/AAAA	3A130380
03DE 0 C02C		LO_		N3CO	NOW A#/5555 Q#/AAAA	3A130390 3A130400
030F 0 18CF 03E0 0 F02E		R TE EOR		15 N3C4	NOW A#/5554 Q#/AAA8 Zero With /5554	3A130410
03E1 0 4C18 03E6		8 S C	L		BRANCH ON ZERO	3A130420
03E3 0 4400 0F69		851	Ē	F000	RTE 15-Q TO A FAILEO	3A130430
03E5 0 3080		DC		/3080	ERR ID	3A130440
03E6 0 4400 0F98	G3C0		L	F00E	CK LOCK ON ERROR	3A130450 3A130460
03E8 0 70F3		MDX RTE		A3CO 16	NOW A#/AAA8 0#/5554	3A130470
03E9 0 18D0 03EA 0 F025		EOR		N3C5	ZERD WITH /AAA8	3A130480
03E8 0 4C18 03F0			L		SKANCH ON ZERO	3A130490
03ED 0 4400 0F69		851	L	F000	RTE 15-A TO Q FAILEO	3A130500
03EF 0 3081		DC		/3081	ERR IO	3A130510
C3F0 0 4400 0FC4	G3C2		L	F005 A3C0	CK LOCK ON ERROR	3A130520 3A130530
03F2 0 70E9	****	XOM *****	**1		******	3A130540
************					*****************	
CORE DATA OR	*LA-	OPER-				3A130560
ADDD TAKETDUCTION	*8EL	ATION	F	OPERANDS	E REMARKS 108SEQ# AT RIGHT	3A130570
ADDR INSTRUCTION		*****	**	*******	**********	
**********				N-2 f 2	10 /8000	34120500
03F3 O CO1A		LD		N3C3	LO /8000 NOW A#/XXXX Q#/8000	3A130590 3A130600
**********				N3C3 16 N3C2	LO /8000 NOW A#/XXXX Q#/800D LO /0000	

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				_	NOV. 44 (0000 04 (8000	24120420
03F6 0 18C0		RTE		0		3A130620
03F7 0 180F		RTE		31		3A130630
03F8 0 F018		E OR		N3C6	ZERO WITH /0001	3A130640
03F9 0 4C18 03FE		8SC	L	G3C4+&-	BRANCH ON ZERO	3A130650
03F8 0 4400 0F69			Ĺ	FC30	SERIES RTE FAILED	3A130660
		0C	_	/3082		3A130670
03FD 0 3082						
03FE 0 4400 0F98	G3C4		L	FOOE		3A130680
0400 0 70F2		MOX		A3C4		3A130690
0401 0 1800		RTE		16	NOW A-/0000 Q-/0000	3 <b>A130700</b>
0402 0 4C18 0407		8SC	L	G3C6,&-	BRANCH DN ZERO	3A130710
0404 0 4400 0F69			L	F000	SERIES RTE FAILEO	3A130720
0406 0 3083		DC DC	_	/3083		3A130730
	6357					3A130740
0407 0 4400 OFC4	G3C6		L	F005		
0409 0 70E9		MOX		A3C4		3A130750
040A 0 7007		MOX		A400		3A130760
0408 0 5555	N3C0	0C		/5555		3A130770
O4OC O AAAA	N3C1	DC		/AAAA		3A130780
040D 0 0000	N3C2	00		/0000		3A130790
040E 0 8000	N3C3	oc		/8000		3A130800
						3A130810
040F 0 5554	N3C4	DC		/5554		3A130820
0410 0 AAA8	N3C5	DC		/AAA8		
0411 0 0001	N3C6	OC		/0001		3A130830
	*					3A130840
	*			TEST	OF SLA OPERATION	3A13U850
	*					3A130860
	*****	*****	**	*******	******	3A130870
0412 0 0400 0486	A400	LO	L	N400	LO /FFFF	3A130880
0414 O 18DO		RTE	-	16	NOW A#/XXXX O#/FFFF	3A130890
		_		N400	LO /FFFF	3A130900
0415 0 C400 0486		LO.	L			3A130910
0417 0 1010		SLA		16	NOW A#/0000 O#/FFFF	
0418 0 4C02 0410		8 S C	L	G404,C	8R DN CARRY	3A130920
041A 0 4400 DF69		851	L	F000	SLA 15-CARRY FAILEO	3A130930
041C 0 3085		DC		/3085	ERR ID	3A130940
0410 0 4400 OF98	G404	BSI	L	FOOE	CK LOCK ON ERROR	3A130950
041F 0 70F2	• • • •	MOX	_	A400	LOOP	3A130960
0420 0 4618 0425		8SC	L	G400,E-	BRANCH DN ZERO	3A130970
					SLA 16-A REG FAILED	3A130980
0422 0 4400 OF69		851	L	F000		3A130990
0424 0 3084		OC.		/3084	ERR ID	
0425 0 4400 OF98	G400	8 S I	L	F00E	CK LOCK ON ERROR	3A131000
0427 0 70EA		MOX		A400	LOOP	3A131010
0428 0 1800		RTE		16	NOW A#/FFFF Q#/0000	3A131020
D429 0 F400 0486		EOR	L	N400	ZERO WITH /FFFF	3A131030
D428 0 4C18 0430		8 S C	L	G406, E-	BRANCH ON ZERO	3A131040
0420 0 4400 0F69		851	Ē	F000	SLA 16-AFFECTEO O REG	3A131050
		00	-	/3086	ERR ID	3A131060
042F 0 3086						3A131070
0430 0 4400 OFC4	G406	851	L	F005	CK LOCK ON ERROR	3A131080
0432 0 70DF		MDX		A400	LOOP	
					*******	3A131090
**********	******	****	***	******	************	3A131100
CORE DATA OR		OPER-				3A131110
ADDR INSTRUCTIO	N *8EL	ATION	FT	OPERANOS 8	REMARKS ID&SEQ# AT RIGHT	
***********	*****	****	***	******	****************	3A131130
D433 0 C400 D488	A408	LO	L	N405	LD /0000	3A131140
	_	RTE			NOW A#/XXXX Q#/0000	3A131150
D435 0 18D0					/FFFE /0000	3A131160
D436 0 C460 D48C		LO.	L	N406		3A131170
D438 0 1010		SLA		16		
0439 0 4CO2 043C		8 S C	L	G407,C	8R ON CARRY	3A131180
D438 0 7003		MDX		G40C		3A131190
D43C 0 4400 DF69	G407	851	L	F000	SLA 16- CARRY FAILEO	3A131200
043E 0 3088		OC		/3088	ERR ID	3A131210
043F 0 4400 0F98	G40C	851	L	FOOE	CK LOCK ON ERROR	3A131220
0441 0 70F1	0 700	MDX	-	A408	LOOP	3A131230
_		850	L	G408+ &-	BRANCH ON ZERO	3A131240
0442 0 4618 0447					SLA 16-A REG FAILEO	3A131250
0444 0 4400 BF69		851	L	F000		3A131260
D446 0 3087		00		/3087	ERR ID	
0447 0 4400 DF98	G408	8S I	L	FOOE	CK LOCK ON ERROR	3A131270
						24424200
0449 0 70E9	0.00	MDX		A408	LOOP	3A131280
0449 0 70E9 044A 0 18D0	0.00			A408 16	LDOP NOW A#/0000 Q#/0000	3A131280 3A131290

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18M MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

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CPU FUNCTION TEST

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0448 0	4C18 0450		8 SC	L	G40E, &-	BRANCH ON ZERO	3A131300
0440 0	4400 OF69		BSI	L	F000	SLA 16-AFFECTED & REG	3A131310
044F 0	3089		OC		/3089	ERR 10	3A131320
0450 0	4400 OFC4	G40E	BSI	L	F005	CK LOCK ON ERROR	3A131330
0452 0	70E0		MOX		A40B	LOOP	3A131340
	_			***		**************	3A131350
0453 0		8400	LO.		N405	LO /0000	3A131360
0454 0			RTE		16	NDW A#/XXXX Q#/0000	3A131370
0455 0 0456 0			LO Sla		N403 1	LO /AAAA NDW A#/5554 Q#/0000	3A1313B0 3A131390
	4C02 045C		BSC	L	H402+C	BRANCH ON CARRY	3A131400
	4400 OF69		BSI	ī	F000	SLA 1-CARRY FAILEO	3A131410
0458 0			OC	_	/3088	ERR 10	3A131420
045C C	4400 OF98	H402	851	L	FOOE	CK LOCK ON ERROR	3A131430
045E 0	70F4		MOX		8400	LOOP	3A131440
045F 0	F05A		EOR		N404	ZERO WITH /5554	3A131450
	4018 0465		BSC	L	H400,E-	BRANCH ON ZERO	3A131460
	4400 OF69		BSI	L	F000	SLA 1-A REG FAILEO	3A131470
0464 0	) 308A ) 4400 OF98	H400	OC BSI		/308A	ERR 10	3A131480
0467 0		<del>177</del> 00	MDX	L	F00E 840 <b>0</b>	CK LOCK ON ERROR	3A131490 3A131500
0468 0			RTE		16	NDW A#/0000 0#/5554	3A131510
	4C18 046E		8SC	L	H404, E-	BRANCH ON ZERO	3A131520
	4400 OF69		851	Ē	F000	SRA 1-AFFECTED Q REG	3A131530
0460 0	308C		OC	_	/308C	ERR ID	3A131540
046E 0	4400 OFC4	H4 04	8 S I	L	F005	CK LOCK ON ERROR	3A131550
0470 0	70E2		MOX		8400	LOOP	3A131560
				***		*******	3A131570
0471 0		B406	LO		N405	LO /0000	3A131580
0472 0			RTE		16	NOW A#/XXXX 0#/0000	3A131590
0473 0 0474 0			LO		N402	LO /5555	3A131600 3A131610
	4001		SLA BSC	L	1 · H407•C	NOW A#/AAAA Q#/0000 Br on Carry	3A131620
0477 0			MOX	L	H405	DR UN CARRY	3A131630
	4400 0F69	H407	BSI	L	F000	SLA 1-CARRY FAILEO	3A131640
047A C			OC	_	/30BE	ERR 10	3A131650
0478	4400 OF98	H405	BSI	L	FOOE	CK LOCK ON ERROR	3A131660
0470 0	70F3		MOX		B406	LOOP	3A131670
047E 0			EOR		N403	ZERO WITH /AAAA	3A131680
	4C18 0484		BSC	L	H406+&-	BRANCH ON ZERO	3A131690
	4400 OF69		BSI	L	F000	SLA 1-A REG FAILED	3A131700
0483 0			00		/3080 -	ERR 10	3A131710
0486 0	4400 OF98	H406	BS1 MOX	L	F00E 8406	CK.LOCK ON ERROR	3A131720 3A131730
0487 0			RTE		16	NOW A#/0000 Q#/AAAA	3A131740
	4C18 0480		BSC	L	H4 08 . &-	BRANCH ON ZERO	3A131750
	4400 OF69		BSI	ì	F000	SLA 1-AFFECTED Q REG	3A131760
048C 0			OC	_	/308F	ERR 10	3A131770
0480 0	4400 OFC4	H408	BSI	L	F005	CK LOCK ON ERROR	3A1317B0
048F 0	70E1		MOX		8406	LOOP	3A131790
						******	3A131B00
					********	****************	
AOOR	OATA OR INSTRUCTION	*LA-			ODED ANDS C	DEMANYS INCCENT AT BICHT	3A131820
						REMARKS	3A131840
0490		B40A	LO		N405	LO /0000	3A131850
0491 0			RTE		16	NBW A#/XXXX Q#/0000	3A131860
0492 0	C024		LO		N401	LD /0001	3A131870
0493 0			LOX		1		3A131880
0494 0			LOX		4		3A131890
0495 0			LOX	3	3		3A131900
0496 0			SLA		0	NOW A#/0001 Q#/0000	3A131910
0497 C			SLA	1	0	/0002 /000 <b>0</b>	3A131920
0499			SLA SLA	,	2	/0008 /0000 /0080 /0000	3A131930 3A131940
049A C			SLA	_	6	/2000 /0000	3A131950
0498			SLA	3	Ŏ	/0000 /0000	3A131960
049C C	4C02 04A1		8SC	L	H400,C	BRANCH ON CARRY	3A131970

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049E									
			0F69		851	L	F000	COMB SLA-CARRY FAILEO	3A131980
04A0					OC		/3091	ERR 10	3A131990
			0F98	H400			FOOE	CK_LOCK ON ERROR	3A132000
04A3			0449		MOX		840A	LOOP Branch on Zero	3A132010
			0F69		856	L	H40A, &- F000	SKANLH UN ZEKU	3A132020
04AB			0103		OC 821	L	/3090		3A132030 3A132040
	_		0F98	H40A		L		CK LOCK ON ERROR	3A132050
0440	Λ	7054			MOX	•	B40A	LOOP	3A1 32060
04AC	ō	1800			RTF		16		3A132070
04A0	ō	4C18	0482		BSC	L	H40E . &-	BRANCH ON ZERD	3A132080
04AF	0	4400	0F69		851	Ē	H40E,&- F000	COMB SLA-AFFECTEO Q	3A132090
0481	0	3092			OC		/3092	ERR IO	3A132100
0482	0	4400	OFC4	H40E	BSI	L	F005	CK LOCK ON ERROR	3A132110
0484					MOX		840A	LOOP	3A132120
0485	-				MOX		A440	EXIT TO NEXT ROUTINE	3A132130
	_	FFFF	~	N400			/FFFF		3A132140
		0001		N401			/0001		3A132150
		5555		N402			/5555		3A132160
		AAAA		N403			/AAAA		3A132170
		5554		N404			/5554		3A132180
		0000 FFFE		N405 N406			/0000		3A132190
U-10C	U	FFFE		*	DC		/FFFE		3A132200 3A132210
				*			TECT	OF SLT OPERATION	3A132210
				*			1631	OF SET OPERATION	3A132230
				*****	*****	***	********	*******	3A132240
0480	0	CO7E		A440	LO.		N440	10 /0001	3A132250
		1800			RTE		16	NDW A#/XXXX Q#Q#/0001	3A132260
04BF	0	C070			LO		N441	LO /0000	3A132270
		10A0			SLT		32	/0000 Q#/0000	3A132280
04C1	0	4C02	0406		BSC	L	G442.C	BRANCH ON CARRY	3A132290
04C3	0	4400	0F69		BSI	L	F000	/0000 Q#/0000 Branch on Carry SLT 32-Carry Faile0	3A132300
0405					oc		/3094	ERA 10	3A132310
			0F98				FOOE	CK LOCK ON ERROR	3A132320
0468					MOX		A440	LOOP	3A132330
0469	0	4018	04CE		BSC	Ļ	G440, &-	BRANCH ON ZERO SLT 32-A REG FAILEO	3A132340
0400	-		0F69		0C B21	L	/3093	ERK 10	3A132350 3A132360
			0F98	C440				CK LOCK ON ERROR	3A132370
0400			01.40	<del>077</del> 0	MOX		A440	LOOP	3A1323B0
0401	-				RTF		16	NOW A#/0000 Q#/0000	3A132390
			0407		BSC	ı	6443.6-	NOH A#/0000 Q#/0000 BRANCH ON ZERO	3A132400
			0F69		851	Ĺ	F000	SLT 32-0 REG FAILEO	3A132410
0406					OC	_	/3095	ERR 10	3A132420
0407	0	4400	OFC4	G443	BSI	L	F005	CK LOCK ON ERROR	3A132430
04D9	0	70E3			MOX	_	A440	LOOP	3A132440
				****	****	***	*******	******	3A132450
****	***	****	******						
					****	***	*******	****************	
CORE		DATA	A OR	*LA- (	OPER-				3A132470
AOOR		INST	A OR TRUCTION	*LA- (	OPER- ATION	FT	OPERANDS &	REMARKS 10&SEQ# AT RIGHT	3A132470 3A132480
A00R	***	INS1	OR TRUCTION	*LA+ ( *8EL /	OPER- ATION	FT ***	OPERANDS &	REMARKS 10&SEQ# AT RIGHT	3A132470 3A132480 3A132490
A00R ***** 040A	•	INST ************************************	OR TRUCTION	*LA+ ( *8EL /	OPER- ATION ***** LO	FT ***	OPERANDS &	REMARKS 10&SEQ# AT RIGHT	3A132470 3A132480 3A132490 3A132500
A00R ***** 040A 04DB	0	INST ****** C063 18D0	OR TRUCTION	*LA+ ( *8EL /	OPER- ATION ***** LO RTE	FT ***	DPERANDS & ***********************************	REMARKS 10&SEQ# AT RIGHT LD /FFFF NDN A#/XXXX Q#/FFFF	3A132470 3A132480 3A132490 3A132500 3A132510
AOOR ***** 040A 04DB 04DC	0 0	INST C063 18D0 C060	OR TRUCTION	*LA+ ( *8EL /	OPER- ATION ****** LO RTE LO	FT ***	OPERANDS & ***********************************	REMARKS 10&SEQ# AT RIGHT ************************************	3A132470 3A132480 3A132490 3A132500 3A132510 3A132520
A00R ***** 040A 04DB 04DC 04DC	0 0 0 0	INS1 C063 18D0 C060	A OR TRUCTION	*LA+ ( *8EL /	OPER- ATION ****** LO RTE LO SLT	FT ***	OPERANDS 6 ************************************	REMARKS 10&SEQ# AT RIGHT ************************************	3A132470 3A132480 3A132490 3A132500 3A132510 3A132520 3A132530
##### 040A 04DB 04DC 04D0 04OE	0 0 0 0	INST C063 18D0 C060 1090 4C02	A OR TRUCTION	*LA+ ( *8EL /	OPER- ATION ****** LO RTE LO SLT BSC	FT ***	OPERANDS 6 ************* N442 16 N441 16 G446+C	REMARKS 10&SEQ# AT RIGHT ************************************	3A132470 3A132480 3A132490 3A132500 3A132510 3A132520 3A132530 3A132540
AOOR ****** 040A 04DB 04DC 04DC 04OE 04EO	00000	INST ##### C063 18D0 C060 1090 4C02 7003	A OR TRUCTION *********	*LA- ( *8EL / ****** A444	OPER- ATION ****** LO RTE LO SLT BSC MOX	FT ****	DPERANDS & ***********************************	REMARKS 10&SEQ# AT RIGHT ************************************	3A132470 3A132480 3A132490 3A132500 3A132510 3A132520 3A132520 3A132540 3A132540
AOOR ****** 040A 04DB 04DC 04DC 04CD 04CD 04CD 04ED 04ED	000000	INST C063 18D0 C060 1090 4C02 7003 4400	A OR TRUCTION *********	*LA+ ( *8EL /	OPER- ATION ******* LO RTE LO SLT BSC MOX 8SI	FT ***	DPERANDS 6 ************************************	REMARKS 10&SEQ# AT RIGHT  LD /FFFF NDW A#/XXXX Q#/FFFF LO /0000 NDW A#/FFFF Q#/0000 BR ON CARRY  SLT 16-CARRY FAILEO	3A132470 3A132480 3A132490 3A132500 3A132510 3A132520 3A132530 3A132540
AOOR ****** 040A 04DB 04DC 040C 040C 040E 04E0 04E1 04E3	0000000	INST ****** C063 1800 C060 1090 4C02 7003 4400 3097	A OR FRUCTION  O4E1  OF69	*LA- ( *BEL / ****** A444	OPER- ATION ****** LO RTE LO SLT BSC MOX BSI OC	FT *****	OPERANDS & ***********************************	REMARKS 10&SEQ# AT RIGHT  LD /FFFF NDM A#/XXXX Q#/FFFF LO /0000 NDW A#/FFFF Q#/0000 BR ON CARRY  SLT 16-CARRY FAILEO ERR 10	3A132470 3A132480 3A132490 3A132500 3A132510 3A132520 3A132530 3A132540 3A132550 3A132560
AOOR ****** 040A 04DB 04DC 040C 040C 040E 04E0 04E1 04E3	000000000000000000000000000000000000000	INST ****** C063 18D0 C060 1090 4C02 7003 4400 3097 4400	A OR FRUCTION  O4E1  OF69	*LA- ( *8EL / ****** A444	OPER- ATION ******* LO RTE LO SLT BSC MOX 8SI	FT ****	DPERANDS 6 ************************************	REMARKS 10&SEQ# AT RIGHT  LD /FFFF NDW A#/XXXX Q#/FFFF LO /0000 NDW A#/FFFF Q#/0000 BR ON CARRY  SLT 16-CARRY FAILEO	3A132470 3A132480 3A132490 3A132500 3A132510 3A132510 3A132520 3A132540 3A132550 3A132550 3A132550 3A132570
AOOR ****** 040A 04DB 04DC 04DC 04OC 04OE 04E0 04E1 04E3 04E4	000000000000000000000000000000000000000	INST ************************************	A OR FRUCTION  O4E1  OF69	*LA- ( *BEL / ****** A444	OPER- ATION ****** LO RTE LO SLT BSC MOX 8SI OC BSI	FT *****	DPERANDS &	REMARKS 10&SEQ# AT RIGHT  ***********************************	3A132470 3A132480 3A132490 3A132500 3A132510 3A132510 3A132530 3A132540 3A132540 3A132560 3A132560
A00R ***********************************	**0000000000	INST ************************************	04E1 0F69	*LA- ( *BEL / ****** A444	OPER- ATION ******* LO RTE LO SLT BSC MOX BSI OC BSI MOX	FT *****	OPERANDS 6 ********** N442 16 N441 16 G446,C G447 F000 /3097 F00E A444	REMARKS 10&SEQ# AT RIGHT  ***********************************	3A132470 3A132480 3A132490 3A132500 3A132520 3A132520 3A132530 3A132540 3A132550 3A132550 3A132560 3A132590 3A132600 3A132610
A00R ****** 040A 040B 040C 040C 04E0 04E1 04E3 04E4 04E6 04E7	******	INST ************************************	04E1 0F69 04E0	*LA- ( *BEL / ****** A444	OPER-ATION ***** LO RTE LO SLT BSC MOX BSI OC BSI MOX EOR	FT ***: L L	DPERANDS 6 ********* N442 16 N441 16 G446,C G447 F000 /3097 F00E A444 N442	REMARKS 10&SEQ# AT RIGHT  ***********************************	3A132470 3A132480 3A132500 3A132510 3A132510 3A132520 3A132530 3A132550 3A132550 3A132570 3A132580 3A132580 3A132580 3A132580 3A132580 3A132580
AOOR ****** 040A 04DB 04DC 040E 04E0 04E1 04E3 04E4 04E6 04E6 04E8 04EA	**********	INST ************************************	04E1 0F69 0F69 0F69	*LA- ( *BEL / ****** A444	OPER-ATION ***** LO RTE LO SLT BSC MOX 8SI OC BSI MOX EOR 8SC	FT   F   F   F   F   F   F   F   F   F	DPERANDS & ***********************************	REMARKS 10&SEQ# AT RIGHT  ***********************************	3A132470 3A132490 3A132500 3A132510 3A132510 3A132520 3A132530 3A132540 3A132550 3A132560 3A132560 3A132560 3A132560 3A132620 3A132610 3A132620 3A132630
AOOR ****** 040A 04DB 04DC 040E 04E0 04E1 04E3 04E4 04E6 04E6 04E8 04EA	************	INST ************************************	04E1 0F69 0F69 0F69	*LA- ( *BEL / ****** A444	OPER- ATION ****** LO RTE LO SLT BSC MOX 8SI OC BSI MOX 8SI OC BSI MOX 8SI OC BSI	FT   F   F   F   F   F   F   F   F   F	DPERANDS & ***********************************	REMARKS 10&SEQ# AT RIGHT  RE***********************************	3A132470 3A132480 3A132500 3A132510 3A132510 3A132520 3A132530 3A132550 3A132550 3A132570 3A132580 3A132580 3A132580 3A132580 3A132580 3A132580

02JAN66 01MAY66 15NOV66 15FE868 26AUG68

EC NO. 415490 415490C 419643 420403 420403A

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3A133340

CPU FUNCTION TEST

04F0 0 18D0		RTE		16	NOW A#/0000 Q#/C000	3A132660
04F1 0 4C18 04F6		BSC	L	G448,&-	BRANCH DN ZERO	3A132670
04F3 0 4400 OF69			Ĺ	F000	SLT 16-Q REG FAILED	3A1326B0
04F5 0 3098		DC		/3098	ERR 1D	3A132690
04F6 0 4400 OFC4	G448	BSI	L	F005	CK LOCK ON ERROR	3A132700
04F8 0 70E1		MDX		A444	LOOP	3A132710
	****	****	***	*******	*****	3A132720
04F9 0 CO45	A44A	LD		N443	LD /5555	3A132730
04FA 0 1800		RTE		16	NOW A#/XXXX Q#/5555	3A132740
04FB 0 C041		LO		N441	/0000 /5555	3A132750
04FC 0 10BF		SLT		15	/2AAA /8000	3A132760
04F0 0 4C02 0500		BSC	L	G44C,C	8R ON CARRY	3A132770
04FF 0 7003		MOX		G44D		3A1327B0
0500 0 4400 <b>0</b> F69	G44C	BS1	L	F0 <b>0</b> 0	SLT 15-CARRY FAILED	3A132790
0502 0 309A		oc		/309A	ERR ID	3A132800
0503 0 4400 OF9B	G44D	BSI	L	FOOE	CK LOCK ON ERROR	3A132B10
0505 0 70F3		MDX		A44A	LOOP	3A132B20
0506 0 F039		EDR		N444	ZERO WITH /ZAAA	3A132B30
0507 0 4C18 050C		BSC	L		BRANCH ON ZERD	3A132840
0509 0 4400 OF69		BSI	L	F000	SLT 15-A REG FAILED	3A132850
050B 0 3099		DC		/3099	ERR IO	3A132860
050C 0 4400 0F98	G44A		L	FOOE	CK LOCK ON ERROR	3A132870
050E 0 70EA		MDX		A44A	LOOP	3A132880 3A132890
050F 0 18D0		RTE		16	NOW A#/8000 Q#/0000	3A132900
0510 0 F030 0511 0 4C18 <b>0</b> 516		E DR BS C	L	N445 G44E,&-	ZERD WITH /BOOO Branch on Zero	3A132910
0513 0 4400 0F69		BSI	Ĺ		SLT 15-Q REG FAILED	3A132920
0515 0 3098		OC	_	/3098	ERR 10	3A132930
0516 0 4400 OFC4	G44E		L		CK LOCK ON ERROR	3A132940
0518 0 70E0	01.6	MOX	-	A44A	LDOP	34132950
	****	****	***		*********	3A132960
************	*****	****	***	*******	********	3A132970
CORE DATA OR	*LA-	OPER-				3A132980
ADDR INSTRUCTION	M +DEI	ATTON		ADEDANOS I	C DEMARKS INCCENT AT DICHT	34132990
ADDK TH21KOCITO	N TOEL	AIIUN	_ r :	UPERMITUS (	E REMARKS IOESEQ# AT RIGHT	J-136110
					**************************************	3A133000
						3A133000 3A133010
**********	******	LO RTE		**************************************	**************************************	3A133000 3A133010 3A133020
0519 0 C022 051A 0 18D0 051B 0 C021	******	LO RTE LD		**************************************	**************************************	3A133000 3A133010 3A133020 3A133030
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080	******	***** LO RTE LD SLT		**************************************	**************************************	3A133000 3A133010 3A133020 3A133030 3A133040
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081	******	***** LO RTE LD SLT SLT		**************************************	LD /0001 NDW A#/XXXX Q#/0001 LO /0000 NDW A#/0000 Q#/0001 /0000 /0002	3A133000 3A133010 3A133020 3A133030 3A133040 3A133050
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085	******	LO RTE LD SLT SLT SLT SLT		**************************************	LD /0001 NDW A#/XXXX Q#/0001 LD /0000 NDW A#/0000 Q#/0001 /0000 /0002 /0000 /0040	3A133000 3A133010 3A133020 3A133030 3A133040 3A133050 3A133060
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087	******	***** LO RTE LD SLT SLT SLT SLT		**************************************	LD /0001 NDW A#/XXXX Q#/0001 LO /0000 NDW A#/0000 Q#/0001 /0000 /0002 /0000 /0040 /0000 /2000	3A133000 3A133010 3A133020 3A133030 3A133040 3A133050 3A133060 3A133070
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089	******	***** LO RTE LD SLT SLT SLT SLT SLT SLT		**************************************	LD /0001 NDW A#/XXXX Q#/0001 LD /0000 NDW A#/0000 Q#/0001 /0000 /0002 /0000 /0040 /0000 /2000 /0040 /0000	3A133000 3A133010 3A133020 3A133030 3A133040 3A133050 3A133060 3A133070 3A133080
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089	******	***** LO RTE LD SLT SLT SLT SLT SLT SLT		**************************************	LD /0001 NDW A#/XXXX Q#/0001 LO /0000 NDW A#/0000 Q#/0001 /0000 /0002 /0000 /0040 /0000 /0000 /0040 /0000 /0000 /0000	3A133000 3A133010 3A133020 3A133030 3A133040 3A133050 3A133060 3A133070 3A133080 3A133090
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527	******	***** LO RTE LD SLT SLT SLT SLT SLT SLT SLT SLT	***	**************************************	LD /0001 NDW A#/XXXX Q#/0001 LD /0000 NDW A#/0000 Q#/0001 /0000 /0002 /0000 /0040 /0000 /0000 /0040 /0000 BR ON CARRY	3A133000 3A133010 3A133020 3A133030 3A133040 3A133050 3A133060 3A133080 3A133080 3A133090 3A133100
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69	******	****** LO RTE LD SLT		**************************************	LD /0001  NDW A#/XXXX Q#/0001  LO /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0040  /0000 /0000  /0040 /0000  BR ON CARRY  COMB SLT-CARRY FAILED	3A133000 3A133010 3A133020 3A133030 3A133040 3A133050 3A133060 3A133070 3A133080 3A133090 3A133100 3A133110
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D	****** B440	****** LO RTE LD SLT	L L	**************************************	LD /0001 NDW A#/XXXX Q#/0001 LD /0000 NDM A#/0000 Q#/0001 /0000 /0002 /0000 /0040 /0000 /0000 /0040 /0000 /0040 /0000 BR ON CARRY COMB SLT-CARRY FAILED ERR ID	3A133000 3A133010 3A133030 3A133040 3A133050 3A133060 3A133070 3A133080 3A133090 3A133100 3A133110 3A133120
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B	******	****** LO RTE LD SLT	***	**************************************	LD /0001  NDW A#/XXXX Q#/0001  LO /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0040  /0000 /0000  /0040 /0000  BR ON CARRY  COMB SLT-CARRY FAILED	3A133000 3A133010 3A133020 3A133030 3A133040 3A133050 3A133060 3A133070 3A133080 3A133090 3A133100 3A133110
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B	****** B440	****** LO RTE LD SLT SLT SLT SLT SLT SLT SLT BSC BSI OC BSI MDX	L L	**************************************	LD /0001 NDW A#/XXXX Q#/0001 LD /0000 NDM A#/0000 Q#/0001	3A133000 3A133010 3A133030 3A133040 3A133050 3A133060 3A133070 3A133080 3A133100 3A133110 3A133110 3A133120 3A133120
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B	****** B440	****** LO RTE LD SLT	*** L L	**************************************	LD /0001 NDW A#/XXXX Q#/0001 LD /0000 NDW A#/0000 Q#/0001	3A133000 3A133010 3A133020 3A133030 3A133040 3A133050 3A133060 3A133080 3A133090 3A133100 3A133110 3A133120 3A133120 3A133120
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0529 0 70EF 052A 0 4C18 052F	****** B440	***** LO RTE LD SLT SLT SLT SLT SLT SLT SLT SLT BSC BSI OC BSI MDX 8SC		**************************************	LD /0001  NDW A#/XXXX Q#/0001  LO /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0000  /0040 /0000  /0000 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR ID  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO	3A133000 3A133010 3A133020 3A133030 3A133040 3A133050 3A133060 3A133070 3A133080 3A133090 3A133110 3A133110 3A133110 3A133120 3A133130 3A133130
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0529 0 70EF 052A 0 4C1B 052F 052C 0 4400 0F69 052E 0 309C	****** B440 H443	***** LO RTE LD SLT SLT SLT SLT SLT SLT SLT BSC BSI OC BSI MDX BSC 8SI		**************************************	LD /0001  NDW A#/XXXX Q#/0001  LO /0000  NDW A#/0000 Q#/0001  /0000 /0000  /0000 /0000  /0040 /0000  /0000 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR ID  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE	3A133000 3A133010 3A133020 3A133030 3A133040 3A133050 3A133060 3A133080 3A133090 3A133100 3A133110 3A133120 3A133120 3A133130 3A133140 3A133150 3A133160
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051F 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0529 0 70EF 052A 0 4C18 052F 052C 0 4400 0F69	****** B440 H443	***** LO RTE LD SLT		**************************************	LD /0001  NDW A#/XXXX Q#/0001  LO /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0000  /0040 /0000  /0040 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR IO  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR IO	3A133000 3A133010 3A133020 3A133040 3A133050 3A133060 3A133060 3A133080 3A133100 3A133110 3A133120 3A133120 3A133150 3A133150 3A133150 3A133150 3A133150 3A133170 3A133180 3A133180
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051F 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0529 0 70EF 052A 0 4C18 052F 052C 0 4400 0F69 052E 0 309C 052F 0 4400 0F9B 052F 0 4400 0F9B 052F 0 4400 0F9B 052F 0 4400 0F9B 052F 0 4400 0F9B 0531 0 70E7	****** B440 H443	***** LO RTE LD SLT SLT SLT SLT SLT SLT SLT SLT BSC BSI OC BSI MDX 8SC BSI DC BSI		**************************************	LD /0001  NDW A#/XXXX Q#/0001  LD /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0000  /0040 /0000  /0040 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR ID  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000	3A133000 3A133010 3A133020 3A133040 3A133050 3A133050 3A133060 3A133060 3A133090 3A133100 3A133110 3A133120 3A133120 3A133140 3A133150 3A133150 3A133160 3A133160 3A133180 3A133180 3A133190 3A133190
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0528 0 4C18 052F 0528 0 4C18 052F 052C 0 4400 0F69 052E 0 309C 052F 0 4400 0F9B 052F 0 4400 0F9B	****** B440 H443	***** LO RTE LD T SLT SLT SLT SLT SLT SLT SLT BSC BSI OC BSI MDSC		**************************************	LD /0001  NDW A#/XXXX Q#/0001  LO /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0000  /0040 /0000  /0040 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR IO  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR IO  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR IO  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERO	3A133000 3A133010 3A133020 3A133040 3A133050 3A133060 3A133060 3A133090 3A133100 3A133110 3A133120 3A133140 3A133140 3A133140 3A133140 3A133140 3A133140 3A133140 3A133140 3A133140 3A133140
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0529 0 70EF 052A 0 4C18 052F 052C 0 4400 0F69 052E 0 309C 052F 0 4400 0F9B 0531 0 70E7 0532 0 18D0 0533 0 4C18 0538 0535 0 4400 0F69	****** B440 H443	***** LO RTE LD SLT SLT SLT SLT SLT SLT SLT BSC BSI MDXC BSI MDXC BSI MOXC BSI		**************************************	LD /0001  NDW A#/XXXX Q#/0001  LO /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0040  /0000 /0000  /0040 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR IO  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR IO  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERO  COMB SLT-Q REG FAILE	3A133000 3A133010 3A133020 3A133030 3A133040 3A133050 3A133060 3A133070 3A133100 3A133110 3A133120 3A133120 3A133140 3A133150 3A133150 3A133160 3A133170 3A133180 3A133190 3A133190 3A133200 3A133210 3A133220
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0529 0 70EF 052A 0 4C18 052F 052C 0 4400 0F69 052E 0 309C 052F 0 4400 0F9B 0531 0 70E7 0532 0 18D0 0533 0 4C18 0538 0533 0 4C18 0538 0537 0 309E	****** B440 H443	***** LO RTE LD SLT SLT SLT SLT SLT SLT SLT SLT BSC BSI MDX BSC BSI MOX RTE BSC	***	**************************************	LD /0001  NDW A#/XXXX Q#/0001  LO /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0000  /0040 /0000  /0040 /0000  /0000 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR IO  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR IO  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERO  COMB SLT-A REG FAILE  ERR IO  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERO  COMB SLT-Q REG FAILE  ERR IO	3A133000 3A133010 3A133020 3A133030 3A133040 3A133060 3A133070 3A133080 3A133100 3A133110 3A133120 3A133140 3A133150 3A133140 3A133140 3A133140 3A133140 3A133150 3A133120 3A133120 3A133120 3A133120 3A133120 3A133120 3A133120 3A133210 3A133220 3A133220 3A133220
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F69 0528 0 4C18 052F 0528 0 4C18 052F 0528 0 4C18 052F 0529 0 70EF 0528 0 309C 052F 0 4400 0F69 0531 0 70E7 0532 0 18D0 0533 0 4C18 0538 0535 0 4400 0F69 0537 0 309E 0538 0 4400 0F69	****** B440 H443	***** LO RTE LD SLT SLT SLT SLT SLT SLT SLT BSC		**************************************	LD /0001  NDW A#/XXXX Q#/0001  LD /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0000  /0000 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR ID  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOM A#/0000 Q#/0000  BRANCH DN ZERO  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR	3A133000 3A133010 3A133020 3A133040 3A133050 3A133060 3A133060 3A133080 3A133100 3A133110 3A133120 3A133120 3A133150 3A133150 3A133150 3A133150 3A133150 3A133150 3A133150 3A133170 3A133180 3A133190 3A133220 3A133220 3A133220 3A133220 3A133220
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0529 0 70EF 052A 0 4C18 052F 052C 0 4400 0F69 052E 0 309C 052F 0 4400 0F9B 0531 0 70E7 0532 0 18D0 0533 0 4C18 0538 0537 0 309E 0538 0 4400 0F69 0538 0 4400 0F69	****** B440 H443	***** LO RTE LD SLT	***	**************************************	LD /0001  NDW A#/XXXX Q#/0001  LD /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0040  /0000 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR ID  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERD  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERD  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP	3A133000 3A133010 3A133020 3A133040 3A133050 3A133050 3A133060 3A133070 3A133100 3A133110 3A133120 3A133120 3A133140 3A133150 3A133160 3A133160 3A133160 3A133160 3A133160 3A133160 3A133160 3A133180 3A133180 3A133200 3A133200 3A133220 3A133220 3A133220 3A133220
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0529 0 70EF 052A 0 4C18 052F 052C 0 4400 0F69 052E 0 309C 052F 0 4400 0F9B 0531 0 70E7 0532 0 18B0 0533 0 4C18 0538 0535 0 4400 0F69 0537 0 309E 0538 0 4400 0FC4 053A 0 70DE	****** B440 H443 H444	***** LO E RTE LD T SLTT SLTT SLTT SLSLT SLSLT SLSLT SLSSI BSI BSI BSI BSI BSI BSI BSI BSI BSI	***	**************************************	LD /0001  NDW A#/XXXX Q#/0001  LD /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0000  /0000 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR ID  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOM A#/0000 Q#/0000  BRANCH DN ZERO  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR	3A133000 3A133010 3A133020 3A133040 3A133050 3A133060 3A133060 3A133090 3A133100 3A133110 3A133120 3A133140 3A133150 3A133140 3A133150 3A133160 3A133160 3A133170 3A133180 3A133180 3A133200 3A133200 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0529 0 70EF 0529 0 70EF 0520 0 4400 0F69 0526 0 309C 052F 0 4400 0F69 052E 0 309C 052F 0 4400 0F9B 0531 0 70EF 0532 0 18D0 0533 0 4C18 0538 0535 0 4400 0F69 0537 0 309E 0538 0 4400 0FC4 053A 0 70DE	****** B440 H443 H444 N440	***** LO RTE LD T SLTT SLTT SLTT SLTT SLST BSI OC BSI MDXC BSI DC	***	**************************************	LD /0001  NDW A#/XXXX Q#/0001  LD /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0040  /0000 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR ID  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERD  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERD  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP	3A133000 3A133010 3A133020 3A133040 3A133050 3A133060 3A133060 3A133090 3A133100 3A133110 3A133120 3A133140 3A133150 3A133140 3A133140 3A133150 3A133160 3A133170 3A133180 3A133190 3A133190 3A133200 3A133200 3A133210 3A133220 3A133220 3A133220 3A133220 3A133220
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0529 0 70EF 052A 0 4C18 052F 052C 0 4400 0F69 052E 0 309C 052F 0 4400 0F69 052E 0 309C 052F 0 4400 0F9B 0531 0 70E7 0532 0 18D0 0533 0 4C18 0538 0535 0 4400 0F69 0537 0 309E 0538 0 4400 0FC4 053A 0 70DE	****** B440  H443  H444  N440 N441	***** LO RTE LD T SLTT SLTT SLTT SLTT SLTT SLST BSI OC BSI MDXC BSI MOXE BSI DC BSI MOXE BSI DC BSI MOXE COC CC	***	**************************************	LD /0001  NDW A#/XXXX Q#/0001  LD /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0040  /0000 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR ID  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERD  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERD  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP	3A133000 3A133010 3A133020 3A133040 3A133050 3A133060 3A133070 3A133070 3A133100 3A133110 3A133120 3A133120 3A133140 3A133150 3A133150 3A133150 3A133160 3A133170 3A133180 3A133190 3A133190 3A133210 3A133210 3A133210 3A133210 3A133210 3A133210 3A133210 3A133210 3A133210 3A133210 3A133210
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0529 0 70EF 052A 0 4C1B 052F 052A 0 4C1B 052F 052C 0 4400 0F69 052E 0 309C 052F 0 4400 0F9B 0531 0 70E7 0532 0 18D0 0533 0 4C1B 0538 0535 0 4400 0F69 0537 0 309E 0538 0 4400 0F69 0538 0 70DE 0538 0 70DE 0538 0 70DE 0538 0 70DE 0530 0 0000 053E 0 FFFF	****** B440 H443 H444 N440 N441 N442	***** LO RTE LD SLTT SLT SLT SLT SLT SLT SLT SLT SLT SL	***	**************************************	LD /0001  NDW A#/XXXX Q#/0001  LD /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0040  /0000 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR ID  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERD  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERD  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP	3A133000 3A133010 3A133020 3A133040 3A133050 3A133060 3A133060 3A133070 3A133100 3A133110 3A133120 3A133120 3A133140 3A133150 3A133160 3A133170 3A133160 3A133170 3A133200 3A133200 3A133200 3A133210 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0529 0 70EF 052A 0 4C18 052F 052C 0 4400 0F69 052E 0 309C 052F 0 400 0F9B 0531 0 70E7 0532 0 18D0 0533 0 4C18 0538 0535 0 4400 0F69 0537 0 309E 0538 0 4400 0F69 0538 0 700E	****** B440 H443 H444 N440 N441 N442 N443	***** LO E RTE LD T SLTT SLTT SLTT SLTT BSCI BSCI BSCI BSCI BSCI BSCI BSCI BSCI	***	**************************************	LD /0001  NDW A#/XXXX Q#/0001  LD /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0040  /0000 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR ID  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERD  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERD  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP	3A133000 3A133010 3A133020 3A133040 3A133050 3A133050 3A133060 3A133070 3A133100 3A133110 3A133120 3A133120 3A133140 3A133150 3A133150 3A133160 3A133160 3A133160 3A133160 3A133200 3A133200 3A133200 3A133250 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0529 0 70EF 052A 0 4C18 052F 052C 0 4400 0F69 052E 0 309C 052F 0 4400 0F9B 0531 0 70E7 0532 0 18D0 0533 G 4C18 0538 0535 0 4400 0F69 0538 0 70E7 0538 0 70E6 0538 0 70DE 0538 0 7006 053C 0 0001 0530 0 0000 053E 0 FFFF	****** B440 H444 N440 N441 N442 N443	**** LO E RTE LD T SLTT SLTT SLTT SLTT SLSI BSI BSI BSI BSI BSI BSI BSI BSI BSI B	***	**************************************	LD /0001  NDW A#/XXXX Q#/0001  LD /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0040  /0000 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR ID  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERD  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERD  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP	3A133000 3A133010 3A133020 3A133040 3A133050 3A133060 3A133060 3A133070 3A133100 3A133110 3A133120 3A133120 3A133140 3A133150 3A133160 3A133170 3A133160 3A133170 3A133200 3A133200 3A133200 3A133210 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220 3A133220
0519 0 C022 051A 0 18D0 051B 0 C021 051C 0 1080 051D 0 1081 051E 0 1085 051F 0 1087 0520 0 1089 0521 0 1089 0521 0 108A 0522 0 4C02 0527 0524 0 4400 0F69 0526 0 309D 0527 0 4400 0F9B 0529 0 70EF 052A 0 4C18 052F 052C 0 4400 0F69 052E 0 309C 052F 0 400 0F9B 0531 0 70E7 0532 0 18D0 0533 0 4C18 0538 0535 0 4400 0F69 0537 0 309E 0538 0 4400 0F69 0538 0 700E	****** B440 H443 H444 N440 N441 N442 N443	***** LO E RTE LD T SLTT SLTT SLTT SLTT BSCI BSCI BSCI BSCI BSCI BSCI BSCI BSCI	***	**************************************	LD /0001  NDW A#/XXXX Q#/0001  LD /0000  NDW A#/0000 Q#/0001  /0000 /0002  /0000 /0040  /0000 /0000  BR ON CARRY  COMB SLT-CARRY FAILED  ERR ID  CK LOCK ON ERROR  LOOP  BRANCH ON ZERO  COMB SLT-A REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERD  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP  NOW A#/0000 Q#/0000  BRANCH DN ZERD  COMB SLT-Q REG FAILE  ERR ID  CK LOCK ON ERROR  LOOP	3A133000 3A133010 3A133020 3A133040 3A133050 3A133060 3A133060 3A133060 3A133100 3A133110 3A133110 3A133120 3A133140 3A133150 3A133160 3A133160 3A133160 3A133160 3A133160 3A133160 3A133200 3A133210 3A133210 3A133210 3A133210 3A133210 3A133210 3A133210 3A133210 3A133210 3A133210 3A133210 3A133210 3A133210

	*			TEST D	F STD OPERATION	3A133340
	*					3A133350
					******	3A133360
0542 0 CO19		LO			LD /0000	3A133370
0543 0 001A		STO			\$10 /0000	3A133380
0544 0 C018 0545 0 C018		LD			LD /FFFF	3A133390 3A133400
0546 0 4C18 05		LO BSC (			LD /0000 Branch on Zero	3A133410
0548 0 4400 OF					STO ZEROS FAILEO	3A133420
0548 0 309F		DC D21	L	_	ERR 10	3A133430
0548 0 4400 OF					CK LOCK DN ERROR	3A133440
0540 0 70F4		MOX	٠.		LOOP	3A133450
0340 0 1014	*****	****	***	******	******	3A133460
054E 0 COOE	A4B2			N481	LO /FFFF	3A133470
054F 0 DOOE	. –	STO		N482	20 /	3A133480
0550 0 COOB		LO		N480	LO /0000	3A133490
0551 0 COOC		LO		N482	LD /FFFF	3A133500
0552 0 F00A		EDR		N481	ZERO WITH /FFFF	3A133510
0553 0 4C18 09			L	G482, &-	BRANCH DN ZERD	3A133520
0555 0 4400 OF		_	Ĺ	F000	STO ONES FAILED	3A133530
0557 0 30A0		00	-	/30A0	ERR ID	3A133540
0558 0 4400 OF			L	F005	CK LOCK ON ERROR	3A133550
055A 0 70F3		MDX	-	A482	LDOP	3A133560
055B 0 7003		MOX		A4CO	EXIT TO NEXT ROUTINE	3A133570
055C 0 0000		OC		/0000		3A133580
055D O FFFF		OC		/FFFF		3A133590
055E O FFFF		OC		/FFFF		3A133600
	*					3A133610
	*			TEST (	OF STS OPERATION	3A133620
	*					3A133630
	*****	****	***	********	*********	3A133640
*********	**********	****	***	*********	*************	3A133650
CORE / DATA	DR *LA- C					3A133660
					REMARKS IDESEQ# AT RIGHT	
******	**********	****	***	********	***************	341334RN
	A4C 0	LOS		3		3A133690
055F 0 2003 0560 <b>0 20</b> 00		LOS LOS		3 0	SET C ANO OF OFF	3A133690 3A133700
0560 <b>0 20</b> 00 0561 0 2850		LOS LOS STS		3 0 N4CO		3A133690 3A133700 3A133710
0560 <b>0 20</b> 00 0561 0 2850 0562 0 C <b>0</b> 5C		LOS LOS STS LO		3 0 N4CO N4CO		3A133690 3A133700 3A133710 3A133720
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0	568	LOS LOS STS LO BSC	L	3 0 N4CO N4CO 64CO+&-	SET C AND OF OFF	3A133690 3A133700 3A133710 3A133720 3A133730
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C1B 09 0565 0 4400 00	568	LOS LOS STS LO BSC BSI		3 0 N4CO N4CO 64CO,&- F0OO	SET C AND OF OFF STS FAILED TO STORE	3A133690 3A133700 3A133710 3A133720 3A133730 3A133740
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0 0565 0 4400 0 0567 0 30A1	568 F6 <b>9</b>	LOS LOS STS LO BSC BSI DC	L	3 0 N4CO N4CO 64CO,E- F000 /30A1	SET C ANO OF OFF  STS FAILED TO STORE ERR IO	3A133690 3A133700 3A133710 3A133720 3A133730 3A133740 3A133750
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C1B 0: 0565 0 4400 0: 0567 0 30A1 0568 0 4400 0:	568 F6 <b>9</b>	LOS LOS STS LO BSC BSI DC 8SI	L	3 0 N4CO N4CO 64CO,&- F000 /30A1 F005	SET C ANO OF OFF  STS FAILED TO STORE ERR IO CK LOCK ON ERROR	3A133690 3A133700 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0 0565 0 4400 0 0567 0 30A1	568 F6 <b>9</b> FC4 G4C0	LOS LOS STS LO BSC BSI DC 8SI MDX	L L	3 0 N4CO N4CO G4CO.E- F000 /30A1 F005 A4CO	SET C ANO OF OFF  STS FAILEO TO STORE ERR 10 CK LOCK ON ERROR LOOP	3A133690 3A133710 3A133710 3A133720 3A133730 3A133740 3A133750 3A133750 3A133770
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C1B 0: 0565 0 4400 0: 0567 0 30A1 0568 0 4400 0: 0564 0 70F4	568 F69 FC4 G4C0	LOS LOS STS LO BSC BSI DC 8SI MDX	L L	3 0 N4CO N4CO G4CO.E- F000 /30A1 F005 A4CO	SET C ANO OF OFF  STS FAILED TO STORE ERR IO CK LOCK ON ERROR	3A133690 3A133710 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133780
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C1B 0: 0565 0 4400 0: 0567 0 30A1 0568 0 4400 0: 0568 0 C0FF	568 F6 <b>9</b> FC4 G4C0	LOS LOS STS LO BSC BSI DC 8SI MDX ******	L L	3 0 N4CO N4CO 64CO.E- F000 /30A1 F005 A4CO	SET C ANO OF OFF  STS FAILEO TO STORE ERR 10 CK LOCK ON ERROR LOOP	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133770 3A133780 3A133780
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C1B 0: 0565 0 4400 0: 0567 0 30A1 0568 0 4400 0: 056A 0 70F4 056B 0 C0FF 056C 0 2003	568 F69 FC4 G4C0 ***** A4C2	LOS LOS STS LO BSC BSI DC 8SI MDX ******	L L	3 0 N4CO N4CO 64CO <sub>*</sub> &- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR 10 CK LOCK ON ERROR LOOP	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133780 3A133790 3A133790 3A133800
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0: 0565 0 4400 0: 0567 0 30A1 0568 0 4400 0: 0568 0 C0FF 056C 0 2003 0560 0 2851	568 F69 FC4 G4C0 ****** A4C2	LOS LOS STS LO BSC BSI DC 8SI MDX ****** LD LOS STS	L L	3 0 N4C0 N4C0 64C0,&- F000 /30A1 F005 A4C0 ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR 10 CK LOCK ON ERROR LOOP	3A133690 3A133710 3A133720 3A133730 3A133740 3A133740 3A133750 3A133770 3A133770 3A133790 3A133790 3A133810
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C1B 0: 0565 0 4400 0: 0568 0 4400 0: 0568 0 C0FF 056C 0 2003 056C 0 2851 056E 0 F0FC	568 F69 FC4 G4C0 ****** A4C2	LOS LOS STS LO BSC BSI DC 8SI MDX ******* LD LOS STS EOR	L L :**	3 0 N4CO N4CO 64CO+&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR IO CK LOCK ON ERROR LOOP **********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133740 3A133760 3A133770 3A133780 3A133780 3A133780 3A133800 3A133810 3A133810
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C1B 0: 0565 0 4400 0: 0567 0 30A1 0568 0 4400 0: 0568 0 C0FF 056C 0 2003 0560 0 2851 056F 0 4C1B 0:	568 F69 FC4 G4C0 ****** A4C2	LOS LOS STS LO BSC BSI DC 8SI MDX ****** LD LOS STS EOR BSC	L L	3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR IO CK LOCK ON ERROR LOOP **********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133780 3A133780 3A133810 3A133810 3A133810 3A133820 3A133830
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C1B 0: 0565 0 4400 0: 0567 0 30A1 0568 0 4400 0: 056A 0 70F4 056B 0 C0FF 056C 0 2003 056C 0 2003 056C 0 4C1B 0: 0571 0 4400 0:	568 F69 FC4 G4C0 ****** A4C2	LOS LOS STS LO BSC BSI DC 8SI MDX ******* LD STS EOR BSC BSI	L L :**	3 0 N4CO N4CO G4CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILED TO STORE ERR IO CK LOCK ON ERROR LOOP **********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133780 3A133780 3A133800 3A133810 3A133820 3A133820 3A133830 3A133840
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0: 0565 0 4400 0: 0567 0 30A1 0568 0 4400 0: 0568 0 C0FF 056C 0 2003 056C 0 2003 056C 0 F0FC 056F 0 4C18 0: 0571 0 4400 0: 0573 0 30A3	568 F69 FC4 G4C0 ***** A4C2	LOS LOS STS LO BSC BSI DC 8SI MDX ****** LD LOS STS EOR BSC BSI DC	L L L	3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILED TO STORE ERR IO CK LOCK ON ERROR LOOP **********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133780 3A133780 3A133810 3A133810 3A133810 3A133850 3A133850
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0: 0565 0 4400 0: 0567 0 30A1 0568 0 4400 0: 0568 0 C0FF 056C 0 2003 056C 0 2003 056C 0 4C18 0: 0571 0 4400 0: 0573 0 30A3 0574 0 4C02 0:	568 F69 FC4 G4C0 ***** A4C2	LOS LOS STS LO BSC BSI DC 8SI MDX ****** LOS STS EOR BSC BSI DC BSC	L L	3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILED TO STORE ERR IO CK LOCK ON ERROR LOOP **********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133790 3A133790 3A133810 3A133820 3A133820 3A133840 3A133840 3A133850 3A133860
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0 0565 0 4400 0 0567 0 30A1 0568 0 4400 0 056A 0 70F4 056B 0 C0FF 056C 0 2003 056C 0 2851 056E 0 F0FC 056F 0 4C18 0 0571 0 4400 0 0573 0 30A3 0574 0 4C02 0 0576 0 7003	568 F69 FC4 G4C0 ****** A4C2	LOS LOS STS LO BSC BSI DC 8SI MDX ****** LOS STS EOR BSC BSC MDX	L L L L	3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILED TO STORE ERR IO CK LOCK ON ERROR LOOP **********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133740 3A133760 3A133770 3A133780 3A133780 3A133810 3A133810 3A133820 3A133830 3A133830 3A133830 3A133830 3A133830 3A133830 3A133830
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0: 0565 0 4400 0: 0567 0 30A1 0568 0 4400 0: 0568 0 C0FF 056C 0 2003 056C 0 2003 056C 0 2003 056C 0 4C18 0: 0571 0 4400 0: 0573 0 30A3 0574 0 4C02 0: 0576 0 7003 0577 0 4400 0:	568 F69 FC4 G4C0 ****** A4C2	LOS LOS STS LO BSC BSI DC 8SI MDX ***********************************	L L L	3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR IO CK LOCK ON ERROR LOOP  BRANCH ON ZERO ACC GONE AFT LOS-STS ERR 10 BR IF CARRY IS NO STS NOT CLEAR CARRY	3A133690 3A133710 3A133720 3A133740 3A133740 3A133770 3A133770 3A133770 3A133770 3A133780 3A133810 3A133810 3A133820 3A133830 3A133840 3A133840 3A133860 3A133860 3A133860 3A133860 3A133860
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C1B 0: 0565 0 4400 0: 0567 0 30A1 0568 0 4400 0: 0568 0 C0FF 056C 0 2003 056C 0 2003 056C 0 E0FC 056F 0 4C1B 0: 0571 0 4400 0: 0573 0 30A3 0574 0 4C02 0: 0576 0 7003 0577 0 4400 0: 0579 0 30A2	568 F69 FC4 G4C0 ****** A4C2 574 F69 577 H4C3 F69 H+C2	LOS LOS STS LO BSC BSI DC 8SI MDX ****** EOR BSC BSC BSI DC BSC BSI DC BSC BSI DC BSC BSI DC BSC BSI DC DC BSC BSI DC DC BSI DC DC DC DC DC DC DC DC DC DC DC DC DC	L L L L	3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR 10 CK LOCK ON ERROR LOOP **********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133780 3A133780 3A133800 3A133810 3A133820 3A133850 3A133850 3A133850 3A133860 3A133870 3A133880 3A133880 3A133880 3A133880
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0565 0 4400 0566 0 70F4 0566 0 2003 0560 0 2851 056E 0 F0FC 056F 0 4C18 0571 0 4400 0573 0 30A3 0574 0 4C02 0576 0 7003 0577 0 4400 0577 0 4400 0577 0 30A2 057A 0 4400 0	568 F69 FC4 G4C0 ****** A4C2 574 F69 577 H4C3 F69 H4C2	LOS LOS STS LO BSC BSSI DC 8SI MDX ****** LOS STS EOR BSC BSC BSC BSC BSC BSC BSC BSSI DC BSSI DC BSSI DC BSSI DC BSSI BSSI BSSI BSSI BSSI BSSI BSSI BSS	L L L L	3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR IO CK LOCK ON ERROR LOOP **********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133780 3A133780 3A133810 3A133810 3A133810 3A133850 3A133850 3A133860 3A133860 3A133860 3A133890 3A133890 3A133890 3A133890
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0: 0565 0 4400 0: 0567 0 30A1 0568 0 4400 0: 0568 0 C0FF 056C 0 2003 056C 0 2003 056C 0 4C18 0: 0571 0 4400 0: 0573 0 30A3 0574 0 4C02 0: 0576 0 7003 0577 0 4400 0: 0577 0 30A2 0576 0 40EE	568 F69 FC4 G4C0 ****** A4C2 574 F69 577 H4C3 F69 H4C2 F98 G4C2	LOS LOS STS LO BSC BSSI DC 8SI ED ED BSC MDX 8SI DC BSC MDX 8SI DC BSC MDX 8SI DC BSC MDX	L L L L	3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR 10 CK LOCK ON ERROR LOOP  *********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133750 3A133770 3A133780 3A133790 3A133810 3A133810 3A133820 3A133850 3A133860 3A133860 3A133870 3A133890 3A133890 3A133890 3A133990 3A133990
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0 0567 0 30A1 0568 0 C0FF 056C 0 2003 056C 0 2003 056C 0 4C18 0 0571 0 4C02 0 0576 0 7003 0577 0 4C00 0 057C 0 70EE 057D 0 4C01 0	568 F69 FC4 G4C0 ****** A4C2 574 F69 577 H4C3 F69 H4C2 F98 G4C2	LOS LOS STS LO BSC BSI DC 8SI MDX ****** LOS STS EOR BSC MDX 8SI DC BSC MDX 8SI DC BSC MDX 8SI BSC BSI BSC BSI BSC BSI BSC BSI BSC BSI BSC BSI BSC BSI BSC BSI BSI BSI BSI BSI BSI BSI BSI BSI BSI	L L L L	3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR IO CK LOCK ON ERROR LOOP **********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133770 3A133790 3A133810 3A133810 3A133820 3A133840 3A133850 3A133860 3A133860 3A133870 3A133860 3A133870 3A133890 3A133910 3A133990 3A133990
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0565 0 4400 0566 0 70F4 0566 0 2003 0566 0 2851 0566 0 2003 0571 0 4400 0577 0 4400 0577 0 4400 0577 0 4400 0577 0 4400 0577 0 4400 0577 0 70E5 0577 0 4600 0577 0 70E5 0577 0 70E5 0577 0 70E5 0577 0 4600 0577 0 70E5 0577 0 7003	5668 F69 FC4 G4C0 ****** A4C2 574 F69 577 H4C3 F69 H→C2 F98 G4C2	LOS LOS STS LO BSC BSI DC 8SI MDX ******* LOS STS EOR BSC MDX 8SI DC BSC MDX 8SI MDX 8SI MDX 8SI MDX 8SI MDX 8SI BSC BSC BSC BSC MDX 8SI MDX 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI	L L L L L	3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR IO CK LOCK ON ERROR LOOP  *********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133740 3A133770 3A133770 3A133770 3A133790 3A133800 3A133810 3A133820 3A133820 3A133850 3A133850 3A133870 3A133870 3A133870 3A133870 3A133870 3A133870 3A133893
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C1B 0565 0 4400 0566 0 70F4 0566 0 2003 0566 0 2851 056E 0 F0FC 056F 0 4C1B 0577 0 4400 0577 0 30A2 0576 0 70EE 057D 0 4C00 057F 0 7003 0580 0 4400 0	5668 F69 FC4 G4C0 ****** A4C2 574 F69 577 H4C3 F69 H→C2 F98 G4C2	LOS LOS STS LO BSC BSSI DC 8SI MDX ****** LOS STS EOR BSC BSC BSC BSSI DC BSSI DC BSSI DC BSSI DC BSSI BSSI BSSI BSSI BSSI BSSI BSSI BSS	L L L L	3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR IO CK LOCK ON ERROR LOOP **********************************	3A133690 3A133710 3A133730 3A133730 3A133740 3A133750 3A133760 3A133770 3A133780 3A133780 3A133800 3A133810 3A133850 3A133850 3A133850 3A133850 3A133870 3A133870 3A133870 3A133890 3A133990 3A133990 3A133990 3A133990 3A133990
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0565 0 4400 05664 0 70F4 0566 0 2003 0560 0 2851 056E 0 F0FC 056F 0 4C18 0571 0 4400 0573 0 30A3 0574 0 4C02 0576 0 7003 0577 0 4400 0577 0 4400 0577 0 7003 0577 0 7003 0577 0 7005 057F 0 7003 0582 0 30A4 05582 0 30A4	568 F69 FC4 G4C0 ****** A4C2 574 F69 F69 H4C3 F69 H4C2 F88 G4C2 F89 H4C4	LOS LOS STS LO BSC BSSI DC 8SI MDX ******* LOS STOR BSC BSC BSC BSSI DC BSSI BSSI BSSI BSSI BSSI BSSI BSSI BSS		3 0 N4CO N4CO 64CO+&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR IO CK LOCK ON ERROR LOOP **********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133780 3A133780 3A133810 3A133810 3A133820 3A133830 3A133840 3A133850 3A133860 3A133860 3A133890 3A133990 3A133990 3A133990 3A133990 3A133990 3A133990 3A133990 3A133990 3A133990 3A133990
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0565 0 4400 0566 0 70F4 0566 0 2003 0566 0 2851 056E 0 70F6 0571 0 4400 0577 0 4400 0577 0 30A2 0576 0 70EE 057D 0 4C01 057F 0 7003 0582 0 4400 0582 0 30A4 0583 0 4400 0	568 F69 FC4 G4C0 ****** A4C2 574 F69 F69 H4C3 F69 H4C2 F88 G4C2 F89 H4C4	LOS LOS STS LO BSC BSSI DC 8SI EDS STS EOR BSC MDX 8SI DC BSC MDX 8SI DC BSC MDX 8SI DC BSC MDX 8SI DC BSC BSC BSC BSC BSC BSC BSC BSC BSC BS	L L L L L	3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR 10 CK LOCK ON ERROR LOOP  *********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133770 3A133780 3A133810 3A133820 3A133840 3A133840 3A133840 3A133860 3A133860 3A133890 3A133890 3A133890 3A133990 3A133990 3A133990 3A133990 3A133990
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0 0565 0 4400 0 0567 0 30A1 0568 0 4400 0 056A 0 70F4  056B 0 C0FF 056C 0 2003 056C 0 2851 056E 0 F0FC 056F 0 4C18 0 0571 0 4400 0 0577 0 4400 0 0577 0 4400 0 0577 0 4400 0 0577 0 4400 0 0577 0 70EE 057D 0 4C01 0 057F 0 7003 0580 0 4400 0 0585 0 70E5	568 F69 FC4 G4C0 ****** A4C2 574 F69 F69 H4C3 F69 H4C2 F88 G4C2 F89 H4C4	LOS LOS STS LO BSC BSC BSC WDX ****** LOS STS EOR BSC MDX BSC MDX BSC MDX BSC MDX BSC MDX BSC MDX BSC MDX BSC BSC BSC BSC BSC BSC BSC BSC BSC BSC		3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR IO CK LOCK ON ERROR LOOP **********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133770 3A133790 3A133810 3A133810 3A133820 3A133840 3A133850 3A133860 3A133870 3A133870 3A133890 3A133990 3A133990 3A133990 3A133990 3A133990 3A133950 3A133950 3A133970
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0 0565 0 4400 0 0567 0 30A1 0568 0 C0FF 056C 0 2003 056C 0 2003 056C 0 2003 056C 0 2003 056C 0 4C18 0 0571 0 4400 0 0577 0 4400 0 0577 0 4400 0 0577 0 4400 0 0577 0 4400 0 0577 0 70EE 057D 0 4C01 0 057F 0 7003 0580 0 4400 0 0585 0 70E5 0586 0 C038	568 F69 FC4 G4C0 ****** A4C2 574 F69 F69 H4C3 F69 H4C2 F88 G4C2 F89 H4C4	LOS LOS STS LO BSC BSI DC 8SI MDX ****** LOS STS EOR BSI DC BSI DC BSI DC BSI DC BSI DC BSI DC BSI DC BSI DC BSI LOS BSI LOS BSI LOS BSI LOS BSI LOS BSI BSI LOS BSI BSI BSI BSI BSI BSI BSI BSI BSI BS		3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR 10 CK LOCK ON ERROR LOOP  *********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133770 3A133790 3A133810 3A133820 3A133820 3A133850 3A133860 3A133860 3A133860 3A133870 3A133890 3A133990 3A133910 3A133910 3A133910 3A133940 3A133940 3A133940 3A133970 3A133970 3A133970 3A133970 3A133970 3A133970
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0: 0565 0 4400 0: 0568 0 70F4  0568 0 C0FF 056C 0 2003 056C 0 2003 056C 0 2851 056E 0 F0FC 056F 0 4C18 0: 0573 0 30A3 0574 0 4C02 0: 0576 0 7003 0577 0 4400 0: 0579 0 30A2 0576 0 7003 0577 0 70EE 057D 0 4C01 0: 057F 0 7003 0580 0 4400 0: 0582 0 30A4 0583 0 4400 0: 0585 0 70E5 0586 0 C038 0587 0 F038	5668 F69 FC4 G4C0 ******* A4C2 574 F69 577 H4C3 F69 H4C2 F98 G4C2 580 F69 H4C4 F98 G4C4	LOS LOS STS LO BSC BSSI DC 8SI MDX ****** LOS STS EOR BSC BSSI DC BSSI BSSI DC BSSI BSSI DC BSSI BSSI BSSI BSSI BSSI BSSI BSSI BSS		3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR 10 CK LOCK ON ERROR LOOP **********************************	3A133690 3A133710 3A133720 3A133730 3A133740 3A133750 3A133760 3A133770 3A133770 3A133790 3A133810 3A133810 3A133820 3A133840 3A133850 3A133860 3A133870 3A133870 3A133890 3A133990 3A133990 3A133990 3A133990 3A133990 3A133950 3A133950 3A133970
0560 0 2000 0561 0 2850 0562 0 C05C 0563 0 4C18 0 0565 0 4400 0 0567 0 30A1 0568 0 4600 0 056A 0 70F4  056B 0 C0FF 056C 0 2003 056C 0 2003 056C 0 4C18 0 0571 0 4600 0 0577 0 4400 0 0577 0 4400 0 0577 0 4400 0 0577 0 70EE 057D 0 4C01 0 057F 0 7003 0580 0 4400 0 0585 0 70E5 0586 0 C038	5668 F69 FC4 G4C0 ****** A4C2 574 F69 577 H4C3 F69 H4C2 F98 G4C2 580 F69 H4C4 F98 G4C4	LOS LOS STS LO BSC BSI DC 8SI MDX ****** LOS STS EOR BSI DC BSI DC BSI DC BSI DC BSI DC BSI DC BSI DC BSI DC BSI LOS BSI LOS BSI LOS BSI LOS BSI LOS BSI BSI LOS BSI BSI BSI BSI BSI BSI BSI BSI BSI BS		3 0 N4CO N4CO 64CO,&- F000 /30A1 F005 A4CO ************************************	SET C ANO OF OFF  STS FAILEO TO STORE ERR 10 CK LOCK ON ERROR LOOP  *********************************	3A133690 3A133710 3A133730 3A133730 3A133740 3A133750 3A133760 3A133780 3A133780 3A133880 3A133810 3A133820 3A133850 3A133850 3A133850 3A133870 3A133870 3A133890 3A133990 3A133990 3A133990 3A133990 3A133990 3A133990 3A133990 3A133990

TEST DF STD OPERATION

PROG 10 03A1-1 02JAN66 01MAY66 15NDV66 15FEB6B 26AUG68 415490 415490C 419643 420403 420403A PAGE EC NO.

02JAN66 01MAY66 15NOV66 15FEB68 26AUG68 OATE EC NO. 415490 415490C 419643 420403 420403A

058C 0	30A5			DC		/30A5	ERR ID	3A13402D
058D 0	4400	OFC4	G4C6	BSI	L	F 0 0 5	CK LOCK ON ERROR	3A13403D
052F 0	70D8			MDX		A4C2	LOOP	3A134040
					***		*************	3A134050
0590 0 0591 0			A4CB	LDS LDS		2	SET C ON OF OFF	3A13406D 3A134070
0592 0				STS		N4CO	SET /OOD2 IN N4CO	3A134080
0593 0				STS		N4C2	SET /0000 IN N4C2	3A134D9D
0594 0	CD2A			LO		N4C0	LD /0002	3A13410D
0595 0				EOR		N4C3	ZERO WITH /0002	3A134110
0596 0				BSC	L			3A134120
0598 0 059A 0		UF67		BS I DC	L	FD00 /3DA6	STS FAILED TO STORE ERR ID	3A13413D 3A13414D
059B 0		0F98	G4C8		L		CK LOCK ON ERROR	3A13415D
059D D				MDX		A4C8	LOOP	3A134160
059E 0				LD		N4C2	LD /DD02	3A13417D
059F 0				BSC		G4CA, &-		3A1341B0
05A1 0		UFOY		BSI DC	L	F000 /30A7	STS NOT CLEAR CARRY ERR ID	3A134190 3A134200
05A4 0		OFC4	G4CA		L		CK LOCK ON ERROR	3A134210
05A6 0				MDX	_	A4C8	LOOP	3A134220
					***		*************	3A134230
05A7 0			A4CC	LDS		3		3A134240
05AB 0				LDS		1	SET C-OFF OF - ON	3A134250
05AA 0				STS		N4CO N4C2	SET /00D1 IN N4C0 SET /0000 IN N4C2	3A134260 3A134270
OSAB O				LO		N4CO	LD /0001	3A134280
05AC 0	F016			EOR		N4C4	ZERO WITH /0001	3A134290
05AD 0				8 S C	L	G4CC+&-	BRANCH ON ZERO	3A13430D
05AF 0		0F69		BSI	L	F000	STS FAILED TO STORE	3A13431D
05B1 0 05B2 0		OF OR	G4CC	OC BS I	L	/30A8 F00E	ERR ID CK LOCK ON ERROR	3A13432D 3A134330
0584 0		01 70	0400	MDX	_	A4CC	LOOP	3A134340
05B5 0				LO		N4C2		3A134350
0586 0	_			BSC	L	G4C0, &-	BRANCH ON ZERO	3A134360
058B 0		0F69		BSI	L	F000	STS NOT CLEAR OVERFL	3A134370
058A 0 058B 0		0504	G4CD	DC BS1	L	/30A9 FOD5	ERR ID CK LOCK ON ERROR	3A13438D 3A134390
0580 0		UFC4	GTCU	MDX	L	A4CC	LOOP	3A134400
05BE 0				MDX		A500	EXIT TO NEXT ROUTINE	3A134410
D5BF 0	0003		N4CO	DC		/D003		3A13442D
05C0 0			N4C1	DC		/0003		3A134430
0501 0			N4C2			/0000		3A134440
05C2 0 05C3 D			N4C3 N4C4	DC OC		/0 <b>00</b> 2 / <b>00</b> 01		3A134450 3A134460
0,00	0001		*	UC				3A134470
			*			TEST (	OF BSC OPERATION	3A13448D
			•					3A13449D
							********	3A1345D0
****** CURE		******** A OR	******* *LA-		***	********	*************	3A134510 3A13452D
ADDR		_			FT	OPERANDS &	REMARKS 1D&SEQ# AT RIGHT	
	****	******	*****	****	***	*****	************************	3A134540
0504 0	2003		A500			3	SET C AND DF ON	3A134550
0505 0		0658		LD	L	N500	LD /8001	3A13456D
05C7 D	482F			BSC		OSEZC	SK IF OF OFF, PLUS, EVEN,	
D5C8 D	7003		-	MOX		6500	* ZERO DR CARRY DFF.	3A13458D 3A134590
D5C9 0		0F69		BSI	L	FD00	BSC SKPO-SHOULD NOT	3A1346D0
05CB 0	30AA			DC	_	/30AA	ERR ID	3A134610
05CC 0		OFC4	<b>6500</b>	BSI	L	F005	CK LOCK ON ERROR	3A13462D
05CE 0	70F5			MDX		A500	LOOP	3A13463D
05CF 0	2002		A502	LDS	4 <del>4</del> <b>7</b> 1	**************************************	**************************************	3A134640 3A134650
0500 0		0659	AJUZ	LD2	L		LD /0000	3A13466D
05D2 0				BSC	-	330-	SK IF MINUS, DF OFF, CARRY	
			*				*OFF OR PLUS	3A13468D
05D3 0	7003			MDX		G5 02		3A134690

05D4 C	) 4	4400	0F69		851	L	F000	BSC SKPD-SHOULD NOT	3A134700
05D6 0					OC		/30A8	ERR ID	3A134710
			OFC4	G502	BSI	L	F005	CK LOCK ON ERROR	3A134720
05D9 (	) 7	70F5			MDX		A502	LOOP	3A134730
0504 6						***			3A134740
05DA (				A504			3	SET C AND OF ON	3A134750
05D8 0					LD		N502	LD /8000	3A134760
05DD (	_				STS BSC		N5 D7 O-E	SET /0003 IN N507	3A134770
05DE 0					MDX		G504	SK IF OF OFF, MUNIS OR EVEN	
D5DF C					MDX		G505		3A134790 3A13480D
			0F69 '	<b>G504</b>	851	L	F000	BSC FAILED TO SKIP	3A134B10
05E2 0					OC	_	/30AC	ERR ID	3A134820
05E3 (	) 4	4400	0F98	<b>G</b> 505	BSI	L		CK LOCK ON ERROR	3A134830
05E5 0	7	70F4			MDX		A504	LOOP	3A134840
05E6 C	_			N5D7			*-*		3A134850
05E7 C					BSC		0	SKIP IF OVERFLOW IS OFF	3A134860
OSEB C					BSC		0		3A134870
05E9 0					MDX		G506		3A1348B0
OSEA C			25.40		MDX		G5 07	***	3A134890
			0F69	G506	BSI	L	F000	BSC NOT CLEAR OVERFLW	3A134900
05ED 0			0554	C 5 A 7	DC		/30AD	ERR IO	3A134910
05F0 0			OFC4	G507	BSI MDX	L	FDD5 A504	CK LOCK ON ERROR	3A134920
0510 0	•	1 UE 7		****		***		LOOP	3A134930 3A134940
05F1 0	) 2	2000			LOS	***	0	SET C AND OF OFF	3A134950
05F2 0				A300	LD		N5D3	LD /0001	3A134960
05F3 0					BSC		C&Z	SK IF CARRY OFF, PLUS	3A134970
				*				* OR ZERO	3A13498D
05F4 0	7	7DD1			MDX		G50B		3A13499D
05F5 0	-				MDX		H50B		3A135000
			0F 69	G508	BSI	L	F000	BSC FAILED TO SKIP	3A135010
05F8 0	_				DC		/3DAE	ERR ID	3A135020
			OFC4	H50B	BSI	L	FDD5	CK LOCK ON ERROR	3A135030
		/OF 5			MDX		A5D8	LOOP	
OSFB D	•								3A135040
_		_			****	***	********	*******	3A135050
05FC 0	2	2003		***** A50A	***** LDS	***	3	SET C AND OF ON	3A135050 3A135060
05FC 0	2	2003 C05A	060F		LDS LD		3 N500	**************************************	3A135050 3A135060 3A135070
05FC 0	2	2003 C05A	060F	A50A	***** LDS	• • • • · · · · · · · · · · · · · · · ·	3 N500	**************************************	3A135050 3A135060 3A135070 3A135080
05FC 0	2 0 0	2003 C05A 4C0F	060F		LDS LD		3 N5 00 G50A, &OCE	**************************************	3A135050 3A135060 3A135070 3A135080 3A135090
05FC 0 05FD 0 05FE 0	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2003 C05A 4C0F	060F	A50A	LDS LD BSC		3 N500	**************************************	3A135050 3A135060 3A135070 3A135080 3A135090 3A135100
05FC 0 05FD 0 05FE 0	7 7	2003 205A 4C0F 7D01 7007		A50A	LDS LD BSC MDX MDX		3 N500 G50A+&0CE H50A	**************************************	3A135050 3A135060 3A135070 3A135080 3A135090
05FC 0 05FD 0 05FE 0 060D 0	7 7 7	2003 005A 4C0F 7D01 7007		<b>A50A</b>	LDS LD BSC MDX MDX	L	3 N500 G50A+&CCE H50A J50A	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN	3A135050 3A135060 3A135070 3A135080 3A135090 3A13510D 3A135110
05FC 0 05FD 0 05FE 0 060D 0 0601 0 0602 0 0604 0	77 77 77 77 77 77 77 77 77 77 77 77 77	2003 C05A 4C0F 7D01 7007 4400 30AF	DF 69	<b>A50A</b>	LDS LD BSC MDX MDX BSI	L	3 N500 G50A+&DCE H50A J50A FDDD	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN	3A135050 3A135060 3A135070 3A135080 3A135080 3A135100 3A135110 3A135120
05FC 0 05FD 0 05FE 0 060D 0 0601 0 0602 0 0604 0 0605 0	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	2003 C05A 4C0F 7D01 7007 4400 30AF 4400 70F4	DF 69	<b>▲50▲</b>	LDS LD BSC MDX MDX BSI DC BSI MDX	L	3 N500 G50A, &OCE H50A J50A FDDD /3DAF FD0E A50A	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID	3A135050 3A135060 3A135070 3A135080 3A135090 3A135100 3A135110 3A135120 3A135120 3A135140 3A135140
05FC 0 05FD 0 05FE 0 060D 0 0601 0 0602 0 0604 0 0605 0 0607 0	) 2 ) 0 ) 4 ) 7 ) 3 ) 3 ) 7 ) 7	2003 205A 4C0F 7D01 7007 4400 30AF 4400 70F4 7006	DF 69 OF 98	# H5DA	LDS LD BSC MDX MDX BSI DC BSI MDX MDX	L L	3 N500 G50A, &OCE H50A J50A FDDD /3DAF FDDE A50A G50A	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP	3A135050 3A135060 3A135070 3A135070 3A135090 3A135100 3A135110 3A135120 3A135130 3A135130 3A135150 3A135160
05FC 0 05FD 0 05FE 0 0601 0 0602 0 0604 0 0605 0 0607 0 0608 0	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2003 205A 4C0F 7D01 7007 4400 30AF 4400 70F4 7006	DF 69 OF 98	<b>▲50▲</b>	LDS LD BSC MDX MDX BSI DC BSI MDX MDX BSI MDX MDX BSI	L	3 N500 G50A+&CCE H50A J50A FDDD /3DAF FDDE A50A G50A F000	SET C AND OF ON LO /BOO1 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP  BSC SKPD-SHOULD BRNCH	3A135050 3A135060 3A135070 3A135080 3A135090 3A13510D 3A135110 3A135120 3A135120 3A135140 3A135150 3A135150 3A135150
05FC 005FD 005FE 005FE 0060F 0	2 2 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2003 205A 4C0F 7D01 7007 4400 30AF 4400 70F4 7006 4400 30B0	DF69 0F98 DF69	# H5DA	LDS LD BSC MDX MDX BSI DC BSI MDX MDX BSI DC BSI MDX MDX BSI	L L L	3 N500 G50A+&DCE H50A J50A FDDD /3DAF FD0E A50A G50A F000 /3080	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP  BSC SKPD-SHOULD BRNCH ERR ID	3A135050 3A135060 3A135070 3A135080 3A135100 3A135110 3A135120 3A135120 3A135130 3A135140 3A135150 3A135160 3A135160 3A135160
05FC 0 05FD 0 05FE 0 0601 0 0602 0 0604 0 0605 0 0607 0 0608 0 0608 0 0608 0	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2003 C05A 4C0F 7D01 7007 4400 30AF 4400 70F4 7006 4400 30B0	DF69 0F98 DF69	# H5DA	LDS LD BSC MDX MDX BSI DC BSI MDX MDX BSI DC BSI	L L	3 N500 G50A+&BCE H50A J50A FDDD /3DAF FD0E A50A G50A F000 /3080 F00E	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP  BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR	3A135050 3A135060 3A135070 3A135080 3A135100 3A135110 3A135120 3A135120 3A135140 3A135150 3A135150 3A135170 3A135170 3A135170
05FC 0 05FD 0 05FE 0 0601 0 0602 0 0604 0 0605 0 0607 0 0608 0 0608 0 060C 0	2 C C C C C C C C C C C C C C C C C C C	2003 C05A 4C0F 7D01 7007 4400 30AF 4400 70F4 7006 4400 30B0 4400 70ED	DF69 0F98 DF69	# H5DA	LDS LD BSC MDX MDX BSI DC BSI MDX BSI DC BSI MDX BSI DC BSI MDX	L L L	3 N500 G50A+&DCE H50A J50A FDDD /3DAF FDDE A50A G50A F000 /3080 F00E A50A	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP  BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP	3A135050 3A135060 3A135070 3A135080 3A135090 3A135110 3A135110 3A135120 3A135140 3A135150 3A135160 3A135160 3A135160 3A135170 3A135180 3A135190 3A135190
05FC 0 05FE 0 05FE 0 0601 0 0602 0 0604 0 0605 0 0607 0 0608 0 0608 0 0606 0	2 C C C C C C C C C C C C C C C C C C C	2003 C05A 4C0F 7D01 7007 4400 30AF 4400 70F4 7006 4400 70ED F048	DF69 0F98 DF69	# H5DA	LDS LD BSC MDX MDX BSI DC BSI MDX MDX BSI DC BSI MDX BSI DC BSI MDX BSI DC BSI MDX BSI DC BSI	L L L	3 N500 G50A+&OCE H50A J50A FDDD /3DAF FDDE A50A G50A F000 /3080 F00E A50A N500	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001	3A135050 3A135060 3A135070 3A135090 3A135100 3A135110 3A135120 3A135140 3A135140 3A135140 3A135160 3A135170 3A135180 3A135180 3A135180 3A135190 3A135210
05FC 0 05FE 0 05FE 0 0601 0 0602 0 0604 0 0605 0 0607 0 0608 0 0608 0 0606 0 0606 0	2 C G G G G G G G G G G G G G G G G G G	2003 C05A 4C0F 7D01 7007 4400 30AF 4400 70F4 70F4 6400 70ED F048 6820	DF69 0F98 DF69	# H5DA	LDS LD BSC MDX MDX BSI DC BSI MDX MDX BSI DC BSI MDX MDX BSI DC BSI MDX MDX BSI DC BSI MDX BSI DC BSI	L L L	3 N500 G50A+&OCE H50A J50A FDDD /3DAF FDOE A50A F000 /3080 F000 A50A N500 Z	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP  BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP	3A135050 3A135060 3A135070 3A135090 3A135100 3A135110 3A135120 3A135120 3A135150 3A135150 3A135160 3A135160 3A135160 3A135160 3A135170 3A135180 3A135180 3A135180 3A135200 3A135200 3A135220
05FC 0 05FE 0 05FE 0 0601 0 0602 0 0604 0 0605 0 0607 0 0608 0 0608 0 0606 0 0606 0 0606 0 0610 0	20 0 0 0 7 7 4 3 4 7 7 4 3 4 7 F 4 7	2003 C05A 4C0F 7D01 7007 4400 70F4 7006 4400 30B0 4400 70ED F048 8820 7D01	DF69 0F98 DF69	# H5DA	LDS LD BSC MDX MDX BSI DC BSI MDX BSI DC BSI MDX BSI DC BSI MDX BSI DC BSI MDX BSI DC BSI MDX BSI DC BSI MDX BSI BSI BSI BSI BSI BSI BSI BSI BSI BSI	L L L	3 N500 G50A+&OCE H50A J50A FDDD /3DAF FD0E A50A G50A F000 /3080 F000E A50A N500 Z	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001	3A135050 3A135060 3A135080 3A135090 3A13510D 3A135110 3A135120 3A135120 3A135140 3A135150 3A135160 3A135160 3A135160 3A135170 3A135180 3A135190 3A135200 3A135210 3A135220 3A135230
05FC 0 05FE 0 05FE 0 0601 0 0602 0 0604 0 0605 0 0607 0 0608 0 0608 0 0606 0 0606 0	20 4 77 43 47 F 47 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	2003 C05A 4C0F 7D01 7007 4400 30AF 4400 7006 4400 70ED F048 6820 7D01 7003	DF69 0F98 DF69 0F98	# H5DA J50A G5DA	LDS LD BSC MDX MDX BSI DC BSI MDX BSI DC BSI MDX BSI DC BSI MDX BSI MDX MDX MDX MDX MDX MDX MDX MDX MDX MDX	ι ι ι	3 N5 00 G50A+ & DCE  H50A J50A FDDD /3DAF FD0E A50A 650A F000 /3080 F00E A50A N500 Z H5DB K50B	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP  BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001 SK ON ZERO	3A135050 3A135060 3A135070 3A135090 3A135100 3A135110 3A135120 3A135120 3A135150 3A135150 3A135160 3A135160 3A135160 3A135160 3A135170 3A135180 3A135180 3A135180 3A135200 3A135200 3A135220
05FC 0 05FD 0 05FE 0 0601 0 0602 0 0604 0 0605 0 0607 0 0608 0 0608 0 0606 0 0606 0 0606 0 0606 0	20 4 77 43 47 F 47 77 4	2003 C05A 4C0F 7D01 7007 4400 30AF 4400 70F4 6400 70ED 6400 70ED 70ED 70ED 70ED 70ED 70ED	DF69 0F98 DF69 0F98	# H5DA	LDS LD BSC MDX MDX BSI DC BSI MDX BSI DC BSI MDX BSI DC BSI MDX BSI DC BSI MDX BSI DC BSI MDX BSI DC BSI MDX BSI BSI BSI BSI BSI BSI BSI BSI BSI BSI	L L L	3 N500 G50A+&OCE H50A J50A FDDD /3DAF FD0E A50A G50A F000 /3080 F000E A50A N500 Z	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001	3A135050 3A135060 3A135070 3A135080 3A135100 3A135110 3A135120 3A135120 3A135150 3A135160 3A135160 3A135160 3A135160 3A135160 3A135170 3A135180 3A135190 3A135200 3A135200 3A135200 3A135220 3A135220 3A135220
05FC 0 05FD 0 05FE 0 0601 0 0602 0 0604 0 0605 0 0607 0 0608 0 0608 0 0606 0 0606 0 0606 0 0606 0 0611 0 0612 0	20 4 77 7 4 3 4 7 7 7 4 3 4 7 7 7 4 3 3	2003 C05A 4C0F 7D01 7007 4400 70F4 7006 4400 3400 70ED F048 8820 7001 7003 7003 7003 7003 7003 7003	DF69 0F98 DF69 0F98	# H5DA J50A G5DA	LDS LD BSC MDX MDX BSI DC BSI MDX BSI DC BSI MDX EOR BSI MDX EOR BSI MDX EOR BSI MDX EOR BSI MDX BSI MDX BSI	ι ι ι	3 N500 G50A, &OCE H50A J50A FDDD /3DAF FDDE A50A G50A F000 /3080 F00E A50A N500 Z H5DB K50B F000	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001 SK ON ZERO  ACC DISTROYED AFTER BSC ERR 1D	3A135050 3A135060 3A135070 3A135090 3A135100 3A135110 3A135120 3A135140 3A135140 3A135140 3A135160 3A135160 3A135160 3A135170 3A135190 3A135200 3A135200 3A135210 3A135220 3A135230 3A135230 3A135230
05FC 0 05FE 0 05FE 0 0601 0 0602 0 0604 0 0605 0 0607 0 0608 0 0608 0 0606 0 0606 0 0606 0 0606 0 0610 0 0611 0 0613 0	20 4 77 4 3 4 7 7 4 3 4 7 7 4 3 4 4	2003 C05A 4C0F 7D01 7007 4400 30AF 4400 30B0 4400 70ED	DF69 0F98 DF69 0F98	# H5DA J50A G5DA H50B	LDS LD BSC MDX MDX BSI DCSI MDX BSI DCSI MDX BSI DCSI MDX BSI DCSI MDX BSI DCSI MDX BSI DCSI MDX BSI DCSI MDX BSI DCSI MDX BSI DCSI MDX BSI DCSI MDX BSI DCSI MDX BSI DCSI MDX BSI DCSI MDX BSI DCSI BSI DCSI BSI BSI BSI BSI BSI BSI BSI BSI BSI B	L L L	3 N500 G50A, &OCE H50A J50A FDDD /3DAF FDDE A50A G50A F000 /3080 F00E A50A N500 Z H5DB K50B F000 /317D	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, * CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001 SK ON ZERO  ACC DISTROYED AFTER BSC	3A135050 3A135060 3A135070 3A135090 3A135100 3A135110 3A135120 3A135140 3A135140 3A135140 3A135160 3A135160 3A135160 3A135190 3A135190 3A135200 3A135200 3A135200 3A135200 3A135200 3A135200 3A135200 3A135200 3A135200 3A135200 3A135200
05FC 0 05FB 0 05FB 0 0601 0 0602 0 0604 0 0605 0 0607 0 0608 0 0608 0 0606 0 0606 0 0611 0 0612 0 0615 0 0618 0	204 77434774347 7743477434774347	2003 C05A 4C0F 7001 7007 4400 30AF 4400 7006 4400 7008 8820 7001 7003 4400 7000	DF69 0F98 DF69 0F98 0F69 0F69	# H5DA J50A G5DA H50B K508	LDS LD BSC MDX MDX BSI DC BSI MDX BSI DC BSI MDX BSI DC BSI MDX EOR BSC MDX BSI MDX BSI OC BSI MDX		3 N500 G50A+&DCE H50A J50A FDDD /3DAF FDDE A50A 650A F000 /3080 F00E A50A N500 Z H5DB K50B F000 /317D F005 A50C	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP  BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001 SK ON ZERO  ACC DISTROYED AFTER BSC ERR ID CK LOCK ON ERROR EXIT TO NEXT ROUTINE	3A135050 3A135060 3A135070 3A135080 3A135100 3A135110 3A135120 3A135120 3A135140 3A135150 3A135160 3A135160 3A135160 3A135160 3A135120 3A135200 3A135200 3A135200 3A135220 3A135220 3A135220 3A135220 3A135220 3A135220 3A135220 3A135220 3A135220 3A135220 3A135220 3A135220 3A135220
05FC 0 05FD 0 05FE 0 0601 0 0602 0 0604 0 0605 0 0607 0 0608 0 0606 0 0606 0 0610 0 0611 0 0612 0 0615 0 0616 0 0618 0	204 77434774347F4774347	2003 C05A 4C0F 7D01 7007 4400 30AF 4400 70F 4400 70ED 50ED 7001 7003 4400 7001 7003 4400 7000	DF69 0F69 0F69 0F69 0F64	# H5DA J50A G5DA H50B K508	LDS LD BSC MDX MDX BSI DC BSI MDX BSI DC BSI MDX EOR BSC MDX BSI OC BSI MDX BSI OC BSI MDX BSI OC BSI MDX BSI OC BSI MDX BSI OC BSI MDX BSI OC BSI MDX BSI BSI MDX BSI BSI BSI BSI BSI BSI BSI BSI BSI BSI		3 N500 G50A+&DCE H50A J50A FDDD /3DAF FDDE A50A 650A F000 /3080 F00E A50A N500 Z H5DB K50B F000 /317D F005 A50C	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001 SK ON ZERO  ACC DISTROYED AFTER BSC ERR ID CK LOCK ON ERROR EXIT TO NEXT ROUTINE	3A135050 3A135060 3A135070 3A135090 3A135100 3A135110 3A135120 3A135120 3A135140 3A135140 3A135160 3A135160 3A135160 3A135170 3A135190 3A135210 3A135210 3A135220 3A135230 3A135230 3A135230 3A135230 3A135230 3A135280 3A135280 3A135280 3A135280 3A135280 3A135280 3A135280 3A135280 3A135280
05FC 005FB 00 05FE 00 05FE 00 0601 00 0602 00 0604 00 0605 00 0608 00 0608 00 0606 00 0606 00 0611 00 0615 00 0615 00 0616 00	204 774347F4774347	2003 C05A 4C0F 7D01 7007 4400 3080 7064 7060	DF69 0F98 DF69 0F69 0F69 0FC4	#50A #50A #50A #50B #508 ##################################	LDS C MDX B C B MDX B DC B	L L L L L	3 N500 G50A, &OCE H50A J50A FDDD /3DAF FDDE A50A G50A F000 /3080 F00E A50A N500 Z H5DB K50B F000 /317D F005 A50C	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001 SK ON ZERO  ACC DISTROYED AFTER BSC ERR 1D CK LOCK ON ERROR EXIT TO NEXT ROUTINE	3A135050 3A135060 3A135070 3A135090 3A135100 3A135110 3A135120 3A135140 3A135140 3A135140 3A135160 3A135160 3A135160 3A135190 3A135190 3A135200
05FC 005FB 00 05FB 00 05FE 00 0601 00 0602 00 0604 00 0605 00 0608 00 0606 00 0606 00 0606 00 0611 00 0611 00 0615 00 0618 00	204 77434774347 ****************************	2003 C05A 4C0F 7D01 7007 4400 30AF 4400 70F4 7006 4400 70ED 70ED 70ED 70ED 70ED 70ED 70ED 70	DF69 OF69 OF69 OFC4 ************************************	#50A #50A #50A #50B #508 ##################################	LDS LD BSC MDX BSI DC BSI MDX BSI DC BSI MDX B	L L L L L L L FT	3 N500 G50A, &OCE H50A J50A FDDD /3DAF FDDE A50A G50A F000 /3080 F00E A50A N500 Z H5DB K50B F000 /317D F005 A50C	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001 SK ON ZERO  ACC DISTROYED AFTER BSC ERR 1D CK LOCK ON ERROR EXIT TO NEXT ROUTINE  ***********************************	3A135050 3A135060 3A135070 3A135090 3A135100 3A135110 3A135110 3A135120 3A135140 3A135140 3A135160 3A135160 3A135160 3A135170 3A135180 3A135200 3A135200 3A135200 3A135200 3A135200 3A135200 3A135200 3A135200 3A135200 3A135200 3A135200 3A135250 3A135250 3A135250 3A135280 3A135290 3A135310 3A135310 3A135310
05FC 005FB 00 05FE 0 060D 00 0601 00 0602 00 0605 00 0608 00 060B 00 060C 00 060E 00 061E 00	2C4 77434774347F4774347	2003 C05A 4C0F 7D01 7007 4400 3080 4400 7006 4000 7001 7003 4400 7000 4400 7000 4000 7000 4000 7000 4000 7000 4000 7000 4000 7000 4000 7000 4000 7000 4000 7000 4000 7000	DF69 OF69 OF69 OFC4 ************************************	#50A #50A #50B #508 ##################################	LDS LD BSC MDX BSI DC BSI MDX BSI DC BSIX MDX BSI DC BSIX MDX BSI DC BSIX MDX BSI DC BSIX MDX BSI DC BSIX MDX BSI MDX	L L L L L L L FT	3 N500 G50A, &OCE  H50A J50A FDDD /3DAF FDDE A50A G50A F000 /3080 F000 /3080 F000 Z H5DB K50B F000 /317D F005 A50C ************************************	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP  BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001 SK ON ZERO  ACC DISTROYED AFTER BSC ERR 1D CK LOCK ON ERROR EXIT TO NEXT ROUTINE  ***********************************	3A135050 3A135060 3A135070 3A135090 3A135100 3A135110 3A135120 3A135120 3A135130 3A135150 3A135150 3A135160 3A135160 3A135160 3A135160 3A135160 3A135160 3A135200 3A135200 3A135200 3A135220 3A135220 3A135220 3A135230 3A135230 3A135230 3A135230 3A135230 3A135230
05FC 005FE 00 05FE 0 0601 00 0602 00 0604 00 0605 00 0608 00 0608 00 0606 00 0601 00 0611 00 0612 00 0618 00 0618 00 0618 00 0618 00 0618 00 0618 00 0618 00	2C4 77434774347F4774347 * *2	2003 C05A 4C0F 7D01 7007 4400 3080 4400 7006 4400 7003 4400 7000 8444 DATA DATA 1NST	DF69 OF69 OF69 OFC4 ************************************	#50A #50A #50A #50B #508 ##################################	LDS LD BSC MDX BSI MDX	L L L L L L L FT	3 N5 00 G50A, &OCE  H50A J50A FDDD /3DAF FD0E A50A G50A F000 /3080 F000 /3080 F000 Z H5DB K50B K50B F000 /317D F005 A50C ************************************	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001 SK ON ZERO  ACC DISTROYED AFTER BSC ERR ID CK LOCK ON ERROR EXIT TO NEXT ROUTINE  ***********************************	3A135050 3A135060 3A135070 3A135080 3A135100 3A135110 3A135120 3A135120 3A135140 3A135150 3A135150 3A135160 3A135160 3A135160 3A135160 3A135160 3A135160 3A135160 3A13520 3A13520 3A13520 3A13520 3A13520 3A135260 3A135260 3A135260 3A135260 3A135260 3A135270 3A135280 3A135280 3A135280 3A135300 3A135300 3A135300 3A135330 3A135340
05FC 00 05FE 0 05FE 0 0601 0 0602 0 0604 0 0605 0 0608 0 0608 0 0606 0 0606 0 0611 0 0613 0 0615 0 0616 0 0618 0	204 77434774347F4774347 * *2C	2003 C05A 4C0F 7001 7007 4400 30AF 4400 70F 4400 70EB 6820 7001 7003 4400 7000 400 7000 400 7000 400 7000 400 7000 400 7000 400 7000 400 7000 400 7000 400 7000 400 7000 400 7000 400 7000 400 7000 400 7000 400 7000 400 7000 400 7000	DF69 0F98 DF69 0F69 0F64 ++++++	#50A #50A #50B #508 ##################################	LDS LDS BSC MDX MDX BSI BSI BSI BSI BSI BSI BSI BSI BSI BSI	L L L L L L	3 N5 00 G50A & EOCE  H50A J50A FDDD /3DAF FD0E A50A F000 /3080 F000 A50A N500 Z H5DB K50B F000 /317D F005 A50C ************************************	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, * CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001 SK ON ZERO  ACC DISTROYED AFTER BSC ERR 10 CK LOCK ON ERROR EXIT TO NEXT ROUTINE ************************************	3A135050 3A135060 3A135070 3A135090 3A135100 3A135110 3A135120 3A135140 3A135140 3A135140 3A135160 3A135160 3A135160 3A135160 3A135170 3A135180 3A135200 3A135210 3A135210 3A135220 3A135230 3A135230 3A135280 3A135280 3A135280 3A135280 3A135310 3A135310 3A135310 3A135310 3A135330 3A135330 3A135330 3A135330 3A135350
05FC 005FB 00 05FE 0 060P 00 0601 00 0602 00 0604 00 0605 00 060F 00 060E 00 060E 00 060E 00 061E 00	204 77434774347F4774347 * *204	2003 C05A 4C0F 7D01 7007 4400 70F4 7006 4400 70ED 7003 4400 7000	DF69 0F98 DF69 0F69 0F64 ++++++	#50A #50A #50B #508 ##################################	LDS C MDX BSI DS I MDX BSI DS BSI MDX BSI DFE BSI MDX BSI DFE BSI MDX BSI DFE BSI DFE BSI DFE BSI DS BSI DB BSI DS BSI DB	L L L L L L L FT	3 N500 G50A, &OCE H50A J50A FDDD /3DAF FDDE A50A G50A F000 /3080 F00E A50A N500 Z H5DB K50B F000 /317D F005 A50C ************************************	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, + CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001 SK ON ZERO  ACC DISTROYED AFTER BSC ERR ID CK LOCK ON ERROR EXIT TO NEXT ROUTINE  ***********************************	3A135050 3A135060 3A135060 3A135070 3A135090 3A135100 3A135110 3A135120 3A135140 3A135140 3A135140 3A135140 3A135160 3A135160 3A135170 3A135180 3A135200 3A135200 3A135210 3A135200 3A135210 3A135220 3A135230 3A135240 3A135240 3A135240 3A135240 3A135240 3A135240 3A135240 3A135240 3A135250 3A135260 3A135260 3A135280 3A135280 3A135360
05FC 00 05FE 0 05FE 0 0601 0 0602 0 0604 0 0605 0 0608 0 0608 0 0606 0 0606 0 0611 0 0613 0 0615 0 0616 0 0618 0	204 77434774347F4774347 * *204	2003 C05A 4C0F 7D01 7007 4400 70F4 7006 4400 70ED 7003 4400 7000	DF69 0F98 DF69 0F69 0F64 ++++++	#50A #50A #50B #508 ##################################	LDS LDS BSC MDX MDX BSI BSI BSI BSI BSI BSI BSI BSI BSI BSI	L L L L L L	3 N5 00 G50A & EOCE  H50A J50A FDDD /3DAF FD0E A50A F000 /3080 F000 A50A N500 Z H5DB K50B F000 /317D F005 A50C ************************************	SET C AND OF ON LO /8001 BR ON NOT PLUS, OF ON, * CARRY ON OR NOT EVEN  BSC FELL THRU ERR ID CK LOCK ON ERROR LOOP BSC SKPD-SHOULD BRNCH ERR ID CK LOCK ON ERROR LOOP ZERO WITH /8001 SK ON ZERO  ACC DISTROYED AFTER BSC ERR 10 CK LOCK ON ERROR EXIT TO NEXT ROUTINE ************************************	3A135050 3A135060 3A135070 3A135090 3A135100 3A135110 3A135120 3A135140 3A135140 3A135140 3A135160 3A135160 3A135160 3A135160 3A135170 3A135180 3A135200 3A135210 3A135210 3A135220 3A135230 3A135230 3A135280 3A135280 3A135280 3A135280 3A135310 3A135310 3A135310 3A135310 3A135330 3A135330 3A135330 3A135330 3A135350

DATE

EC NO.

PROG IO

PAGE

03A1-1

CPU FUNCTION TEST

061E 0 7008		MOX		J50C		3A135380
061F 0 700A	G50C	MOX		K50C		3A135390
0620 0 4400 0F69	H50C	BSI	L			3A135400 3A135410
0622 0 30B1		OC.		/3081		3A135420
0623 0 4400 OFC4		BSI	L			3A135430
0625 0 70F3		MOX				3A135440
0626 0 7006		MDX		A50 E		
0627 0 4400 0F69	J50C	8S I	L	F000		3A135450
0629 0 30B2		00		/30B2		3A135460
062A 0 4400 OFC4	K50C	BSI	L	F005		3A135470
062C 0 70EC		MDX		A50C		3A135480 3A135490
062D 0 2000	A50E	LDS		0		3A135500
	****		***			3A135510
062E 0 2003		LOS		3 N500	LD /8001	3A135520
062F 0 C02B		LD		MOUU	- BR ON NOT PLUS, NOT EVEN.	
0630 0 4C3F 0634	_	BSC	L	650E • &EUCZ-	*OF, CARRY, NOT ZERO OR	3A135540
	*				*NOT MINUS	3A135550
0/33 0 7008	•	MOX		H50E	THOU MINOS	3A135560
0632 0 700B 0633 0 7007		MOX		J50E		3A135570
0634 0 4400 0F69	G50E	BSI	L		BSC BRNCHEO-SHOULONT	3A1355B0
0636 0 3083	GJUL	OC .	_	/3083	ERR 10	3A135590
0637 0 4400 OFC4		BSI		F005		3A135600
0639 0 70F3		MOX	-	A50E	LOOP	3A135610
063A 0 7006		MDX		B500	200.	3A135620
063B 0 4400 0F69	J50E	BSI	L		BSC SKPD-SHOULONT	3A135630
063D 0 30B4	0,70L	00	_	/3084		3A135640
063E 0 4400 OFC4	H50E	851	L			3A135650
0640 0 70EC		MDX	_	A50E	LOOP	3A135660
	****		**	********	******	3A135670
0641 0 2003	B 500	LOS		3	SET C AND OF ON	3A135680
0642 0 CO18		LD		N503	LD /0001	3A135690
0643 0 4808		8SC		3	SK DN PLUS	3A135700
0644 0 700C		MDX		\$501		3A135710
0645 0 2817		STS		N505	SET /0003 IN N505	3A135720
0646 0 CO16		LO		N505	LD /0003	3A135730
0647 0 F016		EOR		N506		3A135740 3A135750
064B 0 4C1B 0654		BSC	Ļ		BRANCH ON ZERO BSC & CLEAREO DVFLW	3A135760
064A 0 4400 0F69		BSI	L	/3085	ERR 10	3A135770
064C 0 30B5 064D 0 4400 0FC4		0C 8 S I	L		CK LOCK ON ERROR	3A135780
064F 0 70F1		MDX	-	8500	LOOP	3A135790
0650 0 700F		MDX		A540	EXIT TO NEXT ROUTINE	3A135800
0651 0 4400 0F69	\$501	128	L	F000	BSC FAILED TO SKP	3A135810
0653 .0 3086		DC	_	/3086	ERR ID	3A135820
0654 0 4400 OFC4	\$503	BSI	L	F005	CK LOCK ON ERROR	3A135830
0656 0 70EA		MDX		8500	LOOP	3A135840
0657 0 700B		MDX		A540	EXIT TO NEXT ROUTINE	3A135850
065B 0 8001	N500	DC		/B0 <b>01</b>		3A135860
0659 0 0000	N501	OC		/0000		3A135870
065A 0 B000	N502	DC		/8000 .		3A135880
065B 0 0001	N503	DC		/0001		3A135890
065C 0 0004	N504	OC.		/0004		3A135900
065D 0 0000	N505	OC.		*-*	STORAGE	3A135910
065F 0 0003	N506			/0003		3A135920
065F 0 0002	N542	OC		/ <b>0</b> 002		3A135930
	*				05 061 0050.7700	3A135940
	*			1521	OF BSI OPERATION	3A135950 3A135960
		****	***	*****	******	3A135970
******					********	
CORE DATA DR		OPER-				3A135990
				OPERANOS E	REMARKS IDESEQ# AT RIGHT	
					********	
0660 0 2003		LOS		3	SET C AND DE DN	3A136020
0661 0 C0F6		LO		N500	LD /B001	3A136030
0662 0 442F 0674			Ł	6540, ECO&Z	BR ON NOT EVEN, CARRY, OF.	3A136040
0664 0 7001		MOX		H540	* NOT PLUS OR NOT ZERO	3A136050

0665	0	7007			MOX		J540		3A136060
0666	0	4400	0F 69	H540	BSI	L	F000	BSI FELL THRU	3A136070
066B	0	30B7			DC		/3087	ERR ID	3A136080
			OF9B		BS1	L	FO0E	CK LOCK ON ERROR	3A136090
066B					MDX		A540	LOOP	3A136100
066C					MOX		A544	EXIT TO NEXT ROUTINE	3 <b>A13</b> 6110
	_		0F69	J540		L	F000	BSI SKPO-SHOULO BRNCH	3A136120
066F			0500		DC		/30BB	ERR ID	3A136130
0670			OF9 B			L	FOOE	CK LUCK ON ERROR	3A136140
0672 0673	-				MOX MDX		A540 G540&1	LOOP SK TO WORD AFTER G540	3A136150 3A136160
0674				G540			/0000	SK TO WORD AFTER 8540	3A136170
0675				0,740	STS		N505	STORE /0002 IN N505	3A136180
0676					LO		N5 05	TO \0005	3A136190
0677					EDR	L		ZERO WITH /00G2	3A136200
0679	0	4C1B	067E		BSC	L	G542,&-	BRANCH ON ZERO	3A136210
067B	0	4400	0F69		BSI	L	F000	BSI NOT CLEAR OVERFLOW	3A136220
0670	0	3089			DC		/30B9	ERR 10	3A136230
067E			OFC4	G542		L		CK LUCK ON ERROR	3A136240
0680	0	70 OF			MOX		A540	LOOP	3A136250
	_							******	3A136260
0681				A544		Ļ	N542	LD /0002	3A136270 3A136280
0685			0695		BSI MOX	L	G544, Z- H544	SK ON NOT ZERO OR * NOT MINUS	3A136290
0686					MOX		J544		3A136300
			0F69	H544				BSI DIO NOT BRANCH	3A136310
		308 A			DC	_	/30BA	ERR ID	3A136320
068A	0	4400	OFC4		BSI	L	F005	CK LOCK ON ERROR	3A136330
068C	o	70F4			MOX	_	A544	LOOP	3AI 36340
0680	0	700B			MOX		A546	EXIT TO NEXT ROUTINE	3A136350
068E	0	4400	0F69	J544	851	L	F000	8SI SKPD-SHOULD BRNC	3A136360
0690	-				OC		/30BB	ERR 10	3A136370
			OFC4		BSI	L	F005	CK LOCK ON ERROR	3A1363B0
		70E0			MOX		A544	LOOP	3A136390
		7001		6544	MOX		A546	EXIT TO NEXT ROUTINE	3A136400
0695	0	0000		G544			/0000	*****	3A136410 3A136420
0404	_	COC2		A546			N501		3A136430
			0698	A)40	BSI	L		BR WHEN NOT ZERO	3A136440
		700C	0070		MDX	_	J546	DR WILL HOT ZENO	3A136450
		7008			MOX		H546		3A136460
		0000		G546	OC.		/0000		3A136470
069C	0	4400	0F69		BSI	L	F000	BSI BRNCHD-SHOULD NO	3A136480
069E	0	30BC			DC		/30BC	ERR ID	3A136490
			OFC4		BSI	L	F005	CK LOCK ON ERROR	3A136500
		70F4			MDX		A546	LOOP	3A136510
		7006			MOX		A54B	EXIT TO NEXT ROUTINE	3A136520
			0F69	H546		L		BSI SKPD-SHOULO NOT	3A136530
	-	3080			DC		/30BD	ERR IO	3A136540 3A136550
		70ED	OFC4	J546	BS I MDX	L	F005 A546	CK LOCK ON ERROR LOOP	3A136560
UDAB	U	IUED		****		***		*****	3A136570
****	**:	****	******					*********	
CORE			A OR						3A136590
ADDR						FT	OPERANOS &	REMARKS 108SEQ# AT RIGHT	3A136600
		****	******	****	****	***	*******	*************	3A136610
06A9	0	COAE		A54B	LD		N500		3A136620
	-		0684			L	G54B	BR WHEN NOT MINUS	3A136630
		700B			MOX		H54 B	- C.	3A136640
			0F69		BSI	L		BSI SKP-ON COND TRUE	3A136650
		308F			DC		/30BF	ERR 10	3A136660 3A136670
			OFC4		BSI	L		CK LOCK ON ERROR	3A136680
		70F6			MOX		A54B A54A	LOOP EXIT TO NEXT ROUTINE	3A136690
	-	7007 0000		6548			/0000	LATE TO BEAT ADDITED	3A136700
			0F69	0,40		L	F000	BSI BRNCHD-SHOULO NOT	3A136710
		30BF			00	_	/308F	ERR 10	3A136720
			OFC4	H54B	BSI	L	F005	CK LDCK ON ERROR	3A136730

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CPU FUNCTION TEST

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068A	0	70E E			MOX		A548	LOOP	3A136740
						***		**************	3A136750
		COA3		A54A			N542		3A136760
_	_		9390			L	G54A+&	BR WHEN NOT PLUS	3A136770
	_	7008			MOX		H54A	BSI SKPD ON COND TRUE	3A136780
0685	0	4400	0F 69		BSI DC BSI MDX	L	F000	ERR ID	3A136790 3A136800
0601	0	4400	OFC4		BSI	1	/30C0 F005	CK LOCK ON ERROR	3A136810
0604	ň	70F 6	0104		MUX	-	A54A	LOOP	3A136820
0605	n	70.07			MDX		A54C	EXIT TO NEXT ROUTINE	3A136830
0606	ŏ	0000		G54A			/0000		3A136840
			0F69		BSI	L	F000	BSI BRNCHO-SHOULO NOT	3A136850
0609	0	30C 1			OC		/30C1	ERR ID	3A136860
O6CA	0	4400	OFC4	H54A	BSI	L	F005	CK LOCK ON ERROR .	3A136870
06CC	0	70EE			MOX		A54A	LOOP	3A136880
	_			****	****	***	******	*********	3A136890
		C091		A54C	LD 8SI MDX 8SI DC BSI MOX		N542	DO MINEN NOT FUEN	3A136900
			06D8		821	L	634C+E	BR WHEN NOT EVEN	3A136910
		7008	0F69		RUA		H54C F000	BSI SKPD ON COND TRUE	3A136920 3A136930
_		30C 2			021	L	/30C2	ERR ID	3A136940
			OFC4		RSI		F 0 0 5	CK LOCK ON ERROR	3A136950
		70F6			MOX	-	A54C	LOOP	3A136960
		7007			MOX		A54E	EXIT TO NEXT ROUTINE	3A136970
		0000		G54C	OC		/0000		3A136980
06D9	0	4400	0F69		BS1	L	F000	BSI BRNCHO-SHOULD NOT	3A136990
06DB	0	30C3			o C		/30C3	ERR IO	3A137000
OGDC	0	4400	OFC4	H54C		L	F005	CK LOCK ON ERROR	3A137010
06DE	0	70EE			MOX		A54C	LOOP	3A137020
	_					***		******	3A137030
			0454	A54E			0 .	SET C AND OF OFF BR IF CARRY IS ON	3A137040
	_	700B	06EA		BSI	L	H54E	BR IF CARRY IS UN	3A137050 3A137060
			0F69			L	F000	BSI SKPD ON COND TRUE	3A137070
		30C4			oc.		/30C4	ERR 10	3A137080
			OFC4		BSI	L		CK LOCK ON ERROR	3A137090
		70F6			MDX	_	A54E	LOOP	3A137100
06E9	0	7007			MOX		A54F	EXIT TO NEXT ROUTINE	3A137110
06EA	0	0000		654E	00		/0000		3A137120
			0F69			L		BS1 BRNCHD-SHOULD NOT	3A137130
					OC.		/30C5	ERR 10 -	3A137140
			OFC4	H54E		L	F005		3A137150
06F0	0	70E E		****	MDX		A54E	LOOP	3A137160
0461	^	2000		A54F		***	0	SET C AND OF OFF	3A137170 3A137180
		4401					_		3A137190
		700C	-		MOX	_	H54F	DK OK OVER EOM	3A137200
_	_		0F69		BSI MOX- BSI OC OC	L	F000	BS1 SKPD ON COND TRUE	3A137210
		3006			OC.	_	/3006	ERR 10	3A137220
		30C6			OC.		/30C6	ERR 10	3A137230
			OFC4		851	L	F005	CK LOCK ON ERROR	3A137240
		70F5			MOX		A54F	LOOP	3A137250
		7007		05.5	MDX		A580	EXIT TO NEXT ROUTINE	3A137260
_	_	0000	0510	654F	DC		/0300		3A137270
			0F69			L		BSI BRNCHO-SHDULO NOT ERR IO	3A137280 3A137290
					PC				
	0	30 C 7	0504	HSAF	DC RST		/30C7		
0701	0	30C7 4400	OFC4	H54F	BSI	L	F005	CK LOCK ON ERROR	3A137300
0701	0	30 C 7	OFC4	H54F		L			
0701	0	30C7 4400	OFC4		BSI	L	F005 A54F	CK LOCK ON ERROR	3A137300 3A137310
0701	0	30C7 4400	OFC4	*	BSI MOX		F005 A54F TEST	CK LOCK ON ERROR LOOP OF LOO OPERATION	3A137300 3A137310 3A137320
0701 0703	0	30 C7 4400 70 E0		* * *	BSI MOX	***	F005 A54F TEST	CK LOCK ON ERROR LOOP OF LOO OPERATION	3A137300 3A137310 3A137320 3A137320 3A137340 3A137350
0701 0703	0 0	30 C7 4400 70 E0	******	* * * ****	BSI MOX *****	***	F005 A54F TEST	CK LOCK ON ERROR LOOP OF LOO OPERATION	3A137300 3A137310 3A137320 3A137330 3A137340 3A137350 3A137360
0701 0703	0 0	30 C7 4400 70 E0	**************************************	* * * ***** *LA-	#### #**** OPER-	***	F005 A54F TEST	CK LOCK ON ERROR LOOP OF LOO OPERATION	3A137300 3A137310 3A137320 3A137330 3A137340 3A137350 3A137360 3A137370
0701 0703 **********************************	0 0	30 C7 4400 70 E0	******* A OR TRUCTION	* * ***** *LA- *BEL	#### #**** OPER- ATION	***: ***:	F005 A54F TEST **********************************	CK LOCK ON ERROR LOOP  OF LOO OPERATION  ***********************************	3A137300 3A137310 3A137320 3A137330 3A137340 3A137350 3A137360 3A137370 3A137370
0701 0703 ****** CORE ADDR *****	**:	30 C7 4400 70 E0	******** A OR TRUCTION	* * ***** *LA- *8EL	#### #### OPER- ATION	*** *** FT ***	F005 A54F TEST **********************************	CK LOCK ON ERROR LOOP  OF LOO OPERATION  REMARKS 10&SEQ# AT RIGHT	3A137300 3A137310 3A137320 3A137330 3A137340 3A137350 3A137360 3A137370 3A137380 3A137380
0701 0703 **********************************	**:	30 C7 4400 70 E0	********* A OR FRUCTION ********	* * ***** *LA- *8EL	#### #### OPER- AT10N #### LD0	*** *** FT ***	F005 A54F TEST **********************************	CK LOCK ON ERROR LOOP  OF LOO OPERATION  ***********************************	3A137300 3A137310 3A137320 3A137330 3A137340 3A137350 3A137360 3A137370 3A137370

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415490 415490C 419643 420403 420403A

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0708 0									
			0F69		851	L	F000	LDD-A REG INCORRECT	3A137420
070A C					DC		/3008	ERR ID	3A137430
070B 0			0F98	G580		L	FOOE	CK LOCK ON ERROR	3A137440
070D C					MDX		A580	LOGP	3A137450
070E C					RTE		16		3A137460
070F C 0711 C					8\$C	L	G582,&-	BRANCH ON ZERO	3A137470
0713	_	– –	UFOY		BSI DC	L	F000 /3 <b>0</b> C9	LDO-Q REG INCORRECT ERR ID	3A137480 3A137490
0714 C			UELY.	G582	BSI	L	F005	CK LOCK ON ERROR	3A137500
0716			0,04	6702	MDX	-	A580	LOOP	3A137510
,,,,,		.000		****		***		****	3A137520
0717 (	)	C872		A584	LDD		N5C3	LD A#/FFFF G#/FFFF	3A137530
0718 0					EOR		N5C4	ZERO WITH /FFFF	3A137540
0719	)	4C18	071E			L	G584,&-	BRANCH ON ZERU	3A137550
071B C	)	4400	0F 69		BSI	L	F000	LDO-A REG INCORRECT	3A137560
071D C	0	30CA			DC		/30CA	ERR IO	3A137570
071E (	0	4400	0F98	G584	BSI	L	F <b>0</b> 0E	CK LOCK ON ERROR	3A137580
0720 (	0	70F6			MDX		A584	LOOP	3A137590
721 (	0	1800			RTE		16	NOW A#/FFFF Q#/0000	3A137600
0722 (					EOR		N5C4	ZERO WITH /FFFF	3A137610
0723 (					8 SC	L	G586, &-	BRANCH ON ZERO	3A137620
725			0F69		BS1	L	F000	LDD-O REG INCORRECT	3A137630
727 (	_				DC		/30CB	ERR ID	3A137640
728			OFC4	G586	BSI	L	F 0 0 5	CK LOCK ON ERROR	3A137650
72A (	0	70EC			MDX		A584	LOOP	3A137660
					L DO	***	N5C1	*****	3A137670
728 (			0771	A588				LD A#/0000 Q#/0000 Branch on Zero	3A137690
)72C ( )72E (					BSC BSI	L	G588,&- F000	LOD GDD-A REG FAILED	3A137700
7730			0103		DC	L	/30CC	ERR ID	3A137710
731 (	_		ne o a	G588	BSI	L	FOOF	CK LOCK ON ERROR	3A137720
733	_		0170	0 2 0 0	MDX	٠.	A588	LOOP	3A137730
734	-	_			RTE		16	NOW A#/FFFF Q#/0000	3A137740
735			073A		BSC	L	G58A,&-	BRANCH ON ZERO	3A137750
737					BSI	ī	F000 .	LDD-DDD-Q REG FAILED	3A137760
739	D	30CD			OC.		/30CD	ERR ID	3A137770
73A (	0	4400	OFC4	G58A	851	L	F005	CK LOCK ON ERROR	3A137780
73C (	D	70EE			MDX		A588	LOOP	3A137790
				*					3A137800
							TEST	OF STO OPERATION	24127016
				*				•	3A137B10
				*				·	3A137B20
				*			*******	****	3A137B20 3A137830
	• •			*	****	***	*******	***************************************	3A137B20 3A137B30 3A137B40
ORE	• •	OATA	OR	* ***** *LA-	OPER-	***	*********	*********	3A137820 3A137830 3A137840 3A137850
ORE		OATA	OR TRUCTION	* ***** *LA- *BEL	OPER-	*** FT	**************************************	REMARKS IDESEQ# AT RIGHT	3A137B20 3A137830 3A137840 3A137850 3A137860
ORE NDOR	**	INST	OR TRUCTION	* ***** *LA- *BEL	OPER- ATION	*** FT	**************************************	REMARKS IDESEQ# AT RIGHT	3A137830 3A137840 3A137840 3A137860 3A137860
ORE 100R 1**** 173D (	** D	OATA INST ***** C84A	OR TRUCTION	* ***** *LA- *BEL	OPER- ATION	*** FT	**************************************	REMARKS IDESEQ# AT RIGHT	3A137B20 3A137830 3A137840 3A137850 3A137860
ORE 100R 1**** 173D (	** D	OAT/ INST ***** C84A O84D	OR TRUCTION	* ***** *LA- *BEL	OPER- ATION LOD STO	*** FT	**************************************	REMARKS IDESEQ# AT RIGHT	3A137820 3A137830 3A137840 3A137850 3A137860 3A137870 3A137880 3A137890
ORE 100R 1**** 173D ( 173E (	* * D D	OAT/ INST ***** C84A O84D C04C	A OR TRUCTION	* ***** *LA- *BEL	OPER- ATION ****** LOD STO LD	*** FT	**************************************	C REMARKS ID&SEQ# AT RIGHT	3A137820 3A137830 3A137840 3A137850 3A137860 3A137870 3A137880
ORE LDOR ***** )73D ( )73E ( )73F (	* * 0 0 0	OAT/ INST ***** C84A O84D C04C 4C18	N OR TRUCTION ************************************	* ***** *LA- *BEL	OPER- ATION LOD STO	*** FT ***	**************************************	REMARKS ID&SEQ# AT RIGHT LO A#/0000 Q#/0000 LD A#/0000 Q#/0000	3A137820 3A137830 3A137840 3A137850 3A137860 3A137880 3A137880 3A137890 3A137900 3A137910
ORE 100R 1**** 173D ( 173E ( 173F ( 1740 (	* * 0 0 0	OATA INST ***** C84A O84D C04C 4C18 4400	N OR TRUCTION ************************************	* ***** *LA- *BEL	OPER- ATION ****** LOD STO LD BSC	FT +++	**************************************	C REMARKS ID&SEQ# AT RIGHT LO A#/0000 Q#/0000  LD A#/0000 Q#/0000  BRANCH ON ZERO	3A137820 3A137830 3A137840 3A137850 3A137860 3A137880 3A137890 3A137900
CORE NDOR ****** 073D ( 073E ( 0740 ( 0742 (	**	OATA INST ****** C84A O84D C04C 4C18 4400 30CF	OR TRUCTION ************************************	* ***** *LA- *BEL	OPER-ATION THE STO LOD STO LD BSC BSI	FT +++	**************************************	C REMARKS ID&SEQ# AT RIGHT ************************************	3A137820 3A137840 3A137840 3A137860 3A137860 3A137880 3A137890 3A137900 3A137910 3A137920 3A137930
CORE NDOR 1***** 073D ( 073E ( 074G ( 0742 ( 0744 (	** 000000	OATA INST ***** C84A O84D C04C 4C18 4400 30CF 4400	OR TRUCTION ************************************	* ***** *LA~ *BEL *****	OPER-ATION	FT ***	**************************************	REMARKS ID&SEQ# AT RIGHT LO A#/0000 Q#/0000  LD A#/0000 Q#/0000  BRANCH ON ZERO STO-EA INCORRECT ERR IO CK LOCK ON ERROR LOOP	3A137820 3A137840 3A137840 3A137860 3A137860 3A137880 3A137880 3A137980 3A137910 3A137910 3A137930 3A137940 3A137940
CORE ADOR ***** D73D ( D73F ( D740 ( D742 ( D745 ( D747 ( D748 (	**	OAT/ INST ****** C84A 084D C04C 4C18 4400 30CF 4400 70F5 C044	OR TRUCTION	* ***** *LA~ *BEL *****	OPER-ATION  LOD STO LD BSC BSI OC BSI MDX LO	FT ***	**************************************	L REMARKS ID&SEQ# AT RIGHT LO A#/0000 Q#/0000  LD A#/0000 Q#/0000  BRANCH ON ZERO STO-EA INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF	3A137820 3A137840 3A137840 3A137850 3A137880 3A137880 3A137890 3A137910 3A137910 3A137920 3A137930 3A137940 3A137940 3A137940
CORE NDOR ****** 073D ( 073F ( 074C ( 074C ( 0745 ( 0747 ( 0749 (	**	OAT/ INST ****** C84A 084D C04C 4C18 4400 30CF 4400 70F5 C044 4C18	0745 0F69 0F98	* ***** *LA~ *BEL *****	OPER-ATION ATION CONTROL CONTR	FT ***	**************  OPERANDS 8 ***********  N5C1 N5C5 N5C5 G5C0+&- F000 /30CF F00E A5C0 N5C6 G5C2+&-	L REMARKS ID&SEQ# AT RIGHT LO A#/0000 Q#/0000  LD A#/0000 Q#/0000  BRANCH ON ZERO STO-EA INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF BRANCH ON ZERO	3A137820 3A137830 3A137860 3A137860 3A137860 3A137880 3A137980 3A137990 3A137910 3A137920 3A137940 3A137950 3A137960 3A137960
CORE NDOR ****** 073D ( 073E ( 074C ( 074C ( 0747 ( 0748 ( 0748 (	**	OAT/ INSI ***** C84A 084D C04C 4C18 4400 30CF 4400 70F5 C044 4C18 4400	0745 0F69 0F98	* ***** *LA~ *BEL *****	OPER-ATION TODE LO STO LD BSC BSI OC BSI OC BSI MDX LO BSC BSI	FT ***	**************************************	REMARKS ID&SEQ# AT RIGHT LO A#/0000 Q#/0000  LD A#/0000 Q#/0000  BRANCH ON ZERO STO-EA INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF BRANCH ON ZERO STG-EA&1 INCORRECT	3A137820 3A137830 3A137850 3A137850 3A137860 3A137880 3A137880 3A137980 3A137920 3A137930 3A137950 3A137950 3A137950 3A137960
CORE NDOR ****** 0735 ( 0736 ( 0746 ( 0746 ( 0747 ( 0747 ( 0748 ( 0748 ( 0748 (	**	OAT/ INST ****** C84A 084D C04C 4C18 4400 30CF 4400 70F5 C044 4C18 4400 30CF	O745 OF69 OF98	* ***** *LA~ *BEL ***** A5CO	OPER-ATION TOPER-ATION TOPER-ATION TOPER-ATION TOPER-T	FT ****	**************************************	REMARKS IDESEQ# AT RIGHT LO A#/0000 Q#/0000  LD A#/0000 Q#/0000  BRANCH ON ZERO STO-EA INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF BRANCH ON ZERO STG-EA&I INCORRECT ERR IO	3A137820 3A137840 3A137860 3A137860 3A137860 3A137880 3A137980 3A137920 3A137920 3A137940 3A137950 3A137970 3A137970 3A137970 3A137970
CORE NDOR ****** 0735 ( 0736 ( 0740 ( 0744 ( 0745 ( 0747 ( 0748 ( 0748 ( 0748 ( 0748 (	**	OAT/ INST ****** C84A 084D C04C 4C18 4400 30CF 4400 70F5 C044 4C18 4400 30CF 4400	O745 OF69 OF98	* ***** *LA~ *BEL *****	OPER-ATION TOPER-ATION TOPER-A	FT ***	************  OPERANDS & ***********  N5C1 N5C5 N5C5 G5C0+&- F000 /30CF F00E A5C0 N5C6 G5C2+&- F000 /30CF F000 N5C6 F000 F000 /30CF F000	REMARKS IDESEQ# AT RIGHT LO A#/0000 Q#/0000  LD A#/0000 Q#/0000  BRANCH ON ZERO STO-EA INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF BRANCH ON ZERO STG-EA&I INCORRECT ERR IO CK LOCK ON ERROR	3A137820 3A137840 3A137860 3A137860 3A137860 3A137880 3A137980 3A137900 3A137920 3A137940 3A137940 3A137960 3A137960 3A137960 3A137960
CORE NDOR ****** 0735 ( 0736 ( 0740 ( 0744 ( 0745 ( 0747 ( 0748 ( 0748 ( 0748 ( 0748 (	**	OAT/ INST ****** C84A 084D C04C 4C18 4400 30CF 4400 70F5 C044 4C18 4400 30CF 4400	O745 OF69 OF98	* ***** ***** *LA- *BEL ***** A5CO	OPER-ATION TOPER-ATION TOPER-A	FT ****	************  ***********  ***********	REMARKS ID&SEQ# AT RIGHT LO A#/0000 Q#/0000  LD A#/0000 Q#/0000  BRANCH ON ZERO STO-EA INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF BRANCH ON ZERO STG-EA&I INCORRECT ERR IO CK LOCK ON ERROR LOOP CK LOCK ON ERROR LOOP	3A137820 3A137840 3A137860 3A137860 3A137860 3A137880 3A137890 3A137900 3A137910 3A137940 3A137940 3A137950 3A137960 3A137970 3A137970 3A137970 3A137990 3A137990 3A138000
CORE ADOR ****** 073D ( 073E ( 0740 ( 0740 ( 0745 ( 0747 ( 0748 ( 0748 ( 0748 ( 0748 (	**	OAT/ INST ****** C84A 084D C04C 4C1B 4400 30CF 4400 70F5 C044 4C1B 4400 30CF 4400 70EC	O745 OF69 OF98	* ***** ***** *LA- *BEL ***** A5CO	OPER-ATION THE ATION TO BE COMMENT OF THE ATION	FT ****	*************  OPERANDS & ***********  N5C1 N5C5 N5C5 G5C0,&- F000 /30CF F00E A5C0 N5C6 G5C2,&- F000 /30CF F005 A5C0	L REMARKS ID&SEQ# AT RIGHT LO A#/0000 Q#/0000  LD A#/0000 Q#/0000  BRANCH ON ZERO STO-EA INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF BRANCH ON ZERO STG-EA&1 INCORRECT ERR IO CK LOCK ON ERROR LOOP LO CFFFF BRANCH ON ZERO STG-EA&1 INCORRECT ERR IO CK LOCK ON ERROR LOOP	3A137820 3A137830 3A137860 3A137860 3A137860 3A137880 3A137990 3A137990 3A137930 3A137930 3A137950 3A137960 3A137960 3A137960 3A137960 3A137960 3A137960 3A137960 3A138000 3A138000
CORE ADOR ************************************	**	OAT/ INST ****** C84A 084D C04C 4C18 4400 30CF 4400 30CF 4400 70EC C036	O745 OF69 OF98	* ***** ***** *LA- *BEL ***** A5CO	OPER-ATION THE ATION TO BE COMMENT OF THE ATION	FT ****	**************************************	C REMARKS ID&SEQ# AT RIGHT  LO A#/0000 Q#/0000  LD A#/0000 Q#/0000  BRANCH ON ZERO STO-EA INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF BRANCH ON ZERO STG-EA&1 INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF BRANCH ON ZERO STG-EA&1 INCORRECT ERR IO CK LOCK ON ERROR LOOP  LOOP LOOP	3A137820 3A137830 3A137860 3A137860 3A137870 3A137880 3A137980 3A137990 3A137990 3A137940 3A137990 3A137990 3A137990 3A137990 3A137990 3A137990 3A138000 3A138000 3A138000
CORE ADDR ******  0735 (0)7740 (0)7745 (0)7745 (0)7745 (0)7746 (0)7746 (0)7748 (0)7748 (0)7748 (0)7748 (0)7748 (0)7748 (0)7752	**	OAT/ INST ****** C84A 084D C04C 4C18 4400 30CF 4400 30CF 4400 70EC C036 0039	O745 OF69 OF98	* ***** ***** *LA- *BEL ***** A5CO	OPER-ATION TOPER-ATION TOPER-A	FT ****	**************************************	C REMARKS ID&SEQ# AT RIGHT  LO A#/0000 Q#/0000  LD A#/0000 Q#/0000  BRANCH ON ZERO STO-EA INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF BRANCH ON ZERO STG-EA&1 INCORRECT ERR IO CK LOCK ON ERROR LOOP LOOP LOOP LOOP LOOP LOOP LOOP	3A137820 3A137840 3A137860 3A137860 3A137860 3A137860 3A137980 3A137920 3A137920 3A137940 3A137960 3A137960 3A137970 3A137960 3A138000 3A138000 3A138000 3A138000 3A138030
CORE ADOR *******  073D (0)73F (0)73F (0)740 (0)742 (0)744 (0)745 (0)745 (0)748	*************	OAT/INST ************************************	O745 OF69 OF98	* ***** ***** *LA- *BEL ***** A5CO	OPER-ATION  ******* LOD BSC BSI OC BSI MDX LO BSC BSI MOX LO BSI MOX ****** LO STO	FT ****	**************************************	REMARKS IDESEQ# AT RIGHT LO A#/0000 Q#/0000  LD A#/0000 Q#/0000  BRANCH ON ZERO STO-EA INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF BRANCH ON ZERO STG-EA&1 INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF BRANCH ON ZERO STG-EA&1 INCORRECT ERR IO CK LOCK ON ERROR LOOP  LOOP  LOOP  LOOP  LOOP  LOOP  STORE /0000 STORE /0000	3A137820 3A137840 3A137840 3A137860 3A137880 3A137880 3A137980 3A137990 3A137990 3A137940 3A137950 3A137950 3A137960 3A137960 3A137980 3A137980 3A138030 3A138030 3A138030 3A138030
CORE ADDR ******* D73D () D73F () D74C () D74C () D74C () D74S ()	*******************	OAT/INST INST C84A 084D C04C 4C18 4400 70F5 C044 4C18 4400 70EC C036 90039 C835	O745 OF69 OF98	* ***** ***** *LA- *BEL ***** A5CO	OPER-ATION ATION STORMAN ATION BSC BSI OC BS	FT ****	***********  OPERANDS & *********  N5C1  N5C5  N5C5  G5C0,&- F000  /30CF  F00E  A5C0  N5C6  G5C2,&- F000  /30CF  F005  A5C0  **************  N5C1  N5C5  N5C6  N5C6  N5C6  N5C0	REMARKS ID&SEQ# AT RIGHT  LO A#/0000 Q#/0000  LD A#/0000 Q#/0000  BRANCH ON ZERO STO-EA INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF BRANCH ON ZERO STG-EA&I INCORRECT ERR IO CK LOCK ON ERROR LOOP  LO CK LOCK ON ERROR LOOP  LO /FFFF BRANCH ON ZERO STG-EA&I INCORRECT ERR IO CK LOCK ON ERROR LOOP  *********************************	3A137820 3A137840 3A137860 3A137860 3A137870 3A137980 3A137990 3A137930 3A137940 3A137940 3A137940 3A137960 3A137960 3A137960 3A137960 3A138030 3A138030 3A138030 3A138030 3A138030 3A138030 3A138030 3A138030
CORE	**************************	OAT/ INST ****** C84A 084D C04C 4C18 4400 30CF 4400 70F5 C044 4400 30CF 30CF 4400 70EC C036 0039 0039 00835 0836	O745 OF69 OF98	* ***** ***** *LA- *BEL ***** A5CO	OPER-ATION  ******* LOD BSC BSI OC BSI MDX LO BSC BSI MOX LO BSI MOX ****** LO STO	FT ****	**************************************	REMARKS IDESEQ# AT RIGHT LO A#/0000 Q#/0000  LD A#/0000 Q#/0000  BRANCH ON ZERO STO-EA INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF BRANCH ON ZERO STG-EA&1 INCORRECT ERR IO CK LOCK ON ERROR LOOP LO /FFFF BRANCH ON ZERO STG-EA&1 INCORRECT ERR IO CK LOCK ON ERROR LOOP  LOOP  LOOP  LOOP  LOOP  LOOP  STORE /0000 STORE /0000	3A137820 3A137840 3A137840 3A137860 3A137880 3A137880 3A137980 3A137990 3A137990 3A137940 3A137950 3A137950 3A137960 3A137960 3A137980 3A137980 3A138030 3A138030 3A138030 3A138030

0758 0 4C18 075D		8 S C	L	G5C4,&-	BRANCH ON ZERO	3A13810D
075A 0 4400 0F69		851	ī	FDDD	STO-EA INCORRECT	3A138110
075C 0 30DO		DC	_	/3000	ERR ID	3A13812D
D75D D 440D 0F98	G5C4	851	L	FODE	CK LDCK DN ERRDR	3A138130
075F 0 70F1		MDX	_	A5C4	LODP	3A138140
0760 D CD2C		LD		N5C6	LO /1111	3A138150
D761 D FD28		EOR		N5C3	20 11111	3A13816D
0762 0 4C18 D767		8SC	L	G5C6,&-	BRANCH DN ZERO	3A13817D
0764 0 4400 OF69		851	ī	F000	STD-EAG1 INCORRECT	3A138180
0766 0 30Dl		DC	_	/30D1	ERR ID	3A13819D
0767 0 4400 DFC4	G5C6	851	L	FD05	CK LDCK ON ERRDR	3A138200
0769 0 70E7		MDX	_	A5C4	LODP	3A138210
	****		***		*******	3A13822D
D76A D CD1F	A5C8	LD		N5C3	LD /FFFF	3A136230
D768 D DD2D		STO		N5C5	STORE /FFFF	3A13824D
076C D D02D		STO		N5C6	• • • • • • • • • • • • • • • • • • • •	3A13825D
076D 0 DD2D		STO		N5C7		3A13826D
076E D C819		LDD		N5C1	LD A#/0D00 Q#/0000	34138270
076F D D81D		STO		N5C6	STORE IN N5C6 & N5C7	3A13828D
0770 0 CO17		LD		N5C1	LD /DD00	3A138290
D771 D CG18		ĹĎ		N5C6	LD /DD00	3A13830D
D772 0 4C18 D777		8SC	L	G5C8+&-	BRANCH ON ZERO	3A138310
0774 0 440D DF69		851	ī	F000	STD-DDD-EA INCORRECT	3A13832D
0776 D 3DO2		DC	_	/3DD2	ERR ID	3A13833D
0777 D 44D0 DF98	G5C8	851	Ł	FDOE	CK LDCK DN ERROR	3A138340
D779 D 7DFD		MDX	_	A5C8	LOOP	3A138350
077A 0 CD13		LD		N5C7	LD /FFFF	3A13836D
D778 D FOOE		EOR		N5C3	ZERO WITH /FFFF	3A13837D
077C 0 4C18 D781		8 S C	Ł	GSCA+&-	BRANCH ON ZERO	3A138380
077E 0 4400 DF69		8 S I	Ē	F000	STO-DDD-EA&1 LDADEO	3A138390
0780 0 30D3		DC	_	/3003	ERR 10	3A138400
0781 0 44DD DFC4	G5CA	851	Ł		CK LDCK DN ERROR	3A138410
D783 D 7DE6		MDX	_	A5C8	LOOP	3A13842D
0784 0 C005		LD		N5C3	LO /FFFF	3A138430
0785 0 DDD7		STO		N5C6	20 7	3A13844D
0786 0 D007		STO		N5C7		3A138450
0787 0 7007					EXIT TO NEXT ROUTINE	
0787 0 7007 0788 <b>0000</b>		MDX	E	A60D	EXIT TO NEXT ROUTINE	3A1 3846D
0788 0000	N5C1	MDX BSS	E	A60D	EXIT TO NEXT ROUTINE	3A13846D 3A138470
0788 0000 0788 0 0000	N5C1	MDX BSS OC	E	A60D /0000	EXIT TO NEXT ROUTINE	3A13846D 3A138470 3A138480
0788 0000		MDX BSS OC OC	E	A60D /0000 /D0D0	EXIT TO NEXT RDUTINE	3A13846D 3A138470 3A138480 3A138490
0788 0000 0788 00000 0789 00000	N5C3	MDX BSS OC	E	/0000 /0000 /FFFF	EXIT TO NEXT ROUTINE	3A13846D 3A138470 3A138480 3A138490 3A13850D
0788 0000 0788 0 0000 0789 0 0000 078A 0 FFFF 0788 0 FFFF	N5C3 N5C4	MDX BSS OC OC OC OC	E	/0000 /D0D0 /FFFF /FFFF	EXIT TO NEXT RDUTINE	3A13846D 3A138470 3A138480 3A138490 3A13850D 3A138510
0788 0D00 0788 0 0000 0789 0 D000 078A 0 FFFF 0788 0 FFFF D78C 0 FFFF	N5C3 N5C4 N5C5	MDX BSS OC OC OC OC OC	E	/0000 /0000 /D000 /FFFF /FFFF	EXIT TO NEXT RDUTINE	3A13846D 3A138470 3A138480 3A138490 3A13850D 3A138510 3A13852D
0788 0000 0788 0 0000 0789 0 0000 078A 0 FFFF 0788 0 FFFF D78C 0 FFFF	N5C3 N5C4 N5C5 N5C6	MDX BSS OC OC OC OC OC	E	A60D /0000 /D0D0 /FFFF /FFFF /FFFF	EXIT TO NEXT ROUTINE	3A13846D 3A138470 3A138480 3A138490 3A13850D 3A138510 3A13852D 3A138530
0788 0D00 0788 0 0000 0789 0 D000 078A 0 FFFF 0788 0 FFFF D78C 0 FFFF	N5C3 N5C4 N5C5	MDX BSS OC OC OC OC OC	E	/0000 /0000 /D000 /FFFF /FFFF	EXIT TO NEXT ROUTINE	3A13846D 3A138470 3A138480 3A13850D 3A138510 3A138510 3A13852D 3A138530 3A138540
0788 0000 0788 0 0000 0789 0 0000 078A 0 FFFF 0788 0 FFFF D78C 0 FFFF	N5C3 N5C4 N5C5 N5C6 N5C7	MDX BSS OC OC OC OC OC	E	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF	EXIT TO NEXT ROUTINE  OF LOX OPERATION	3A13846D 3A138470 3A138480 3A13850D 3A13850D 3A13852D 3A13852D 3A138540 3A13855D
0788 0000 0788 0 0000 0789 0 0000 078A 0 FFFF 0788 0 FFFF D78C 0 FFFF	N5C3 N5C4 N5C5 N5C6 N5C7	MDX BSS OC OC OC OC OC	E	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF		3A13846D 3A138470 3A138490 3A13850D 3A138510 3A13852D 3A13852D 3A138550 3A13856D
0788 0000 0788 0 0000 0789 0 0000 078A 0 FFFF 0788 0 FFFF D78C 0 FFFF	N5C3 N5C4 N5C5 N5C6 N5C7	MDX BSS OC OC OC OC OC	E	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF		3A13846D 3A138470 3A138480 3A13850D 3A13850D 3A13852D 3A13852D 3A138540 3A13855D
0788 0000 0788 0 0000 0789 0 0000 078A 0 FFFF 0788 0 FFFF D78C 0 FFFF	N5C3 N5C4 N5C5 N5C6 N5C7 * *	MDX BSS OC OC OC OC OC OC	***	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF  TEST		3A1 3846D 3A1 38470 3A1 38490 3A1 3850D 3A1 3851D 3A1 3852D 3A1 38530 3A1 38540 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3858D
0788	N5C3 N5C4 N5C5 N5C6 N5C7 * * * *****	MDX BSS DC DC OC OC OC OC OC OC OC	***	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF TEST	OF LOX OPERATION	3A1 3846D 3A1 38470 3A1 38490 3A1 3850D 3A1 3851D 3A1 3852D 3A1 38530 3A1 38540 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3858D
0788	N5C3 N5C4 N5C5 N5C6 N5C7 * * * *****	MDX BSS DC DC OC OC OC OC OC OC OC	***	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF  TEST	OF LOX OPERATION	3A13846D 3A138470 3A138490 3A138510 3A138510 3A13852D 3A138530 3A13855D 3A13856D 3A13856D 3A13858D 3A13858D 3A13858D
0788	N5C3 N5C4 N5C5 N5C6 N5C7 * * ***** *****	MDX BSS OC OC OC OC OC OC OC OC OC OC OC ATION	*** *** FT	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF  TEST *********************************	OF LOX OPERATION  ***********************************	3A1 3846D 3A1 38470 3A1 38480 3A1 3850D 3A1 38510 3A1 3852D 3A1 38550 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3858D 3A1 3858D 3A1 3860D 3A1 3860D
0788 0D00 0788 0 0000 0789 0 D000 078A 0 FFFF 078B 0 FFFF 078C 0 FFFF 078E 0 FFFF 078E 0 FFFF  ADDR 1NSTRUCTION ************************************	N5C3 N5C4 N5C5 N5C6 N5C7 * * * *****	MDX BSS OC OC OC OC OC OC OC OC DC	*** *** FT	A60D /0000 /D0D0 /FFFF /FFFF /FFFF TEST **********************************	OF LOX OPERATION ************************************	3A1 3846D 3A1 38470 3A1 38480 3A1 3850D 3A1 38510 3A1 3852D 3A1 38530 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3868D 3A1 38600 3A1 38600 3A1 38600
0788 0D00 0788 0 0000 0789 0 D000 078A 0 FFFF 0788 0 FFFF 078C 0 FFFF 078E 0 FFFF 078E 0 FFFF 078E DATA DR ADDR INSTRUCTION ************************************	N5C3 N5C4 N5C5 N5C6 N5C7 * ***** *L8L *****	MDX BSS DC OC OC OC OC OC OC OC DC	*** *** FT	A60D /0000 /D0D0 /FFFF /FFFF /FFFF TEST **********************************	OF LOX OPERATION  *********  ************************	3A1 3846D 3A1 38470 3A1 38480 3A1 3850D 3A1 38510 3A1 3852D 3A1 38550 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3858D 3A1 3858D 3A1 3860D 3A1 3860D
0788 0000 0788 0 0000 0789 0 0000 078A 0 FFFF 078B 0 FFFF 078D 0 FFFF 078E 0 FFFF 078E 0 FFFF 078E 0 ATA DR ADDR INSTRUCTION ************************************	N5C3 N5C4 N5C5 N5C6 N5C7 * * ***** *****	MDX BSS DC OC OC OC OC OC OC OC OC OC OC OC OC OC	*** *** FT	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF  TEST *********************************	OF LOX OPERATION  *********  ************************	3A1 3846D 3A1 38470 3A1 38480 3A1 3850D 3A1 38510 3A1 3852D 3A1 38530 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3868D 3A1 38600 3A1 38600 3A1 38600
0788 0000 0788 0 0000 0789 0 0000 078A 0 FFFF 078B 0 FFFF 078D 0 FFFF 078E 0 FFFF 078E 0 FFFF 078E DATA DR ADDR INSTRUCTION ************************************	N5C3 N5C4 N5C5 N5C5 N5C7 ****** ***** ***** 48EL ***** A600 G6D0	MDX BSS OC OC OC OC OC OC OC OC OC OC OC OC OC	*** *** FT *** L1	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF  TEST *********************************	OF LOX OPERATION  *********  ************************	3A1 3846D 3A1 38470 3A1 38480 3A1 3850D 3A1 3850D 3A1 3852D 3A1 3855D 3A1 3855D 3A1 3857D 3A1 3857D 3A1 3858D 3A1 3858D 3A1 3868D 3A1 3860D 3A1 3860D 3A1 3860D 3A1 3860D 3A1 3866D 3A1 3866D
0788 0D00 0788 0 0000 0789 0 D000 0780 0 FFFF 0788 0 FFFF 078C 0 FFFF 078D 0 FFFF 078E 0 FFFF 078E 0 FFFF 078E 0 TFFF 078F 0 0500 0792 0791 0 7003 0792 0 4400 0F69 0794 D 3DD4 0795 0 440D 0FC4	N5C3 N5C4 N5C5 N5C6 N5C7 * ****** *L8L *****	MDX BSS OC OC OC OC OC OC OC OPER- ATION ***** LDX MDX 8SI	*** *** FT *** L1	A60D /0000 /D000 /FFFF /FFFF /FFFF /FFFF  TEST *********************************	OF LOX OPERATION  ***********************************	3A1 3846D 3A1 38470 3A1 38480 3A1 3850D 3A1 3850D 3A1 3852D 3A1 3855D 3A1 3855D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3860D 3A1 3860D 3A1 3864D 3A1 3864D 3A1 3864D 3A1 3865D 3A1 3866D 3A1 38670
0788 0000 0788 0 0000 0789 0 0000 078A 0 FFFF 078B 0 FFFF 078D 0 FFFF 078E 0 FFFF 078E 0 FFFF 078E DATA DR ADDR INSTRUCTION ************************************	N5C3 N5C4 N5C5 N5C6 N5C7 * * ***** *8EL ***** A600 G6D0	MDX BSS OC OC OC OC OC OC OC OPER- ATION ****** LDX MDX 8SI OC MDX 8SI MDX	*** FT *** L1 L	A60D /0000 /D0D0 /FFFF /FFFF /FFFF  TEST *********************************	OF LOX OPERATION  ***********************************	3A1 3846D 3A1 38470 3A1 38480 3A1 3850D 3A1 38510 3A1 3852D 3A1 3855D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3866D 3A1 3860 3A1 3860 3A1 3868D 3A1 3868D
0788 0D00 0788 0 0000 0789 0 D000 078A 0 FFFF 078B 0 FFFF 078C 0 FFFF 078E 0 FFFF 078E 0 FFFF 078E 0 ATA DR ADDR 1NSTRUCTION ************************************	N5C3 N5C4 N5C5 N5C7 * ***** *LA- *8EL *A600 G6D0 H600	MDX BSS DC OC OC OC OC OC OC OC OC OC OC OC OC OC	*** FT *** L L ***	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF  TEST *********************************	OF LOX OPERATION  ***********************************	3A1 3846D 3A1 38470 3A1 38480 3A1 38590 3A1 38510 3A1 3852D 3A1 38550 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3860D 3A1 3860D 3A1 3860D 3A1 3866D 3A1 3866D 3A1 3866D 3A1 3866D 3A1 3866D 3A1 3866D 3A1 3866D 3A1 3866D
0788 0000 0788 0 0000 0789 0 0000 076A 0 FFFF 0788 0 FFFF 078C 0 FFFF 078E 0 FFFF 078E 0 FFFF 078E DATA DR ADDR INSTRUCTION ************************************	N5C3 N5C4 N5C5 N5C6 ************************************	MDX BSS DC OC OC OC OC OC OC OC OC OC OC OC OC OC	*** FT *** L L ***	A60D /0000 /D0D0 /FFFF /FFFF /FFFF  TEST *********************************	OF LOX OPERATION  ***********************************	3A1 3846D 3A1 38470 3A1 38490 3A1 3850D 3A1 38510 3A1 3852D 3A1 3855D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3860D 3A1 3860D 3A1 3860D 3A1 3860D 3A1 3860D 3A1 3860D 3A1 3860D 3A1 3867D 3A1 3867D
0788 0000 0788 0 0000 0789 0 0000 078A 0 FFFF 078B 0 FFFF 078C 0 FFFF 078E 0 FFFF 078E 0 FFFF 078E DATA DR ADDR INSTRUCTION ************************************	N5C3 N5C4 N5C5 N5C7 ****** ***** ***** A600 G6D0 H600 ****	MDX BSS OC OC OC OC OC OC OC OC OC OC OC OC OC	*** *** FT *** L1 L	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF  TEST *********************************	OF LOX OPERATION  **********  ***********************	3A1 3846D 3A1 38470 3A1 38480 3A1 3850D 3A1 3850D 3A1 3852D 3A1 3855D 3A1 3855D 3A1 3857D 3A1 3857D 3A1 3858D 3A1 3860D 3A1 3860D 3A1 3860D 3A1 3864D 3A1 3864D 3A1 38670 3A1 38670 3A1 38670 3A1 38670 3A1 3870D 3A1 3870D
0788 0D00 0788 0 0000 0788 0 0000 0788 0 FFFF 0788 0 FFFF 078C 0 FFFF 078D 0 FFFF 078E 0 FFFF 078E 0 FFFF 078E 0 FFFF 078F 0 6500 0792 0791 0 7003 0792 0 4400 0F69 0794 D 3DD4 0795 0 440D 0FC4 0797 0 70F7 0798 0 6600 0798 0798 0 6600 0798 0798 0 440D 0F69	N5C3 N5C4 N5C5 N5C7 * ***** *LA- *8EL *A600 G6D0 H600	MDX BSS OC OC OC OC OC OC OC OC OC OPER— ATION ***** LDX BSI MDX 8SI MDX 8SI	*** FT *** L L ***	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF  TEST *********************************	OF LOX OPERATION  ***********************************	3A1 3846D 3A1 38470 3A1 38480 3A1 3850D 3A1 3850D 3A1 3855D 3A1 3855D 3A1 3855D 3A1 3855D 3A1 3856D 3A1 3856D 3A1 3860D 3A1 3860D 3A1 3865D 3A1 3865D 3A1 3865D 3A1 3865D 3A1 3865D 3A1 3867D 3A1 3867D 3A1 3867D 3A1 3867D 3A1 3867D 3A1 3867D
0788 0D00 0788 0 0000 0788 0 0000 0789 0 D000 078A 0 FFFF 078B 0 FFFF 078C 0 FFFF 078D 0 FFFF 078E 0 FFFF 078E 0 FFFF 078F 0 6500 0792 0791 0 7003 0792 0 4400 0F69 0794 0 7003 0795 0 4400 0F69 0796 0 6600 0798 0797 0 7067	N5C3 N5C4 N5C5 N5C67 * ****** *A600 G6D0 H600 ***** G602	MDX BSS OC OC OC OC OC OC OC OPERON ****** LDX MDX 8S1 MDX ***** LDX MDX 8S1 MDX 8S1 MDX 8S1 MDX	*** *** FT **1 L L +*2 L	A60D  /0000  /D0D0  /FFFF  /FFFF  /FFFF  TEST  ********************************	OF LOX OPERATION  ***********************************	3A1 3846D 3A1 38470 3A1 38480 3A1 3850D 3A1 38510 3A1 3852D 3A1 3855D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3866D 3A1 3866D 3A1 3866D 3A1 38670 3A1 38670 3A1 38670 3A1 38670 3A1 38670 3A1 3873D
0788 0000 0788 0 0000 0789 0 0000 0780 0 FFFF 0780 0 FFFF 078C 0 FFFF 078E 0 FFFF 078E 0 FFFF 078E 0 AAAD ADAR 1NSTRUCTION ************************************	N5C3 N5C4 N5C5 N5C7 ****** ***** ***** A600 G6D0 H600 ****	MDX BSS DC OC OC OC OC OC OC OC OPER ****** LDX MDX 8S1 OC OPER ***** LDX MDX 8S1 OC OC OC OC OC OC OC OC OC OC OC OC OC	*** *** FT *** L1 L	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF  TEST *********************************	OF LOX OPERATION  ***********************************	3A1 3846D 3A1 38470 3A1 38480 3A1 38590 3A1 38510 3A1 3852D 3A1 38550 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3860D 3A1 3860D 3A1 3864D 3A1 38670 3A1 38670 3A1 38670 3A1 38670 3A1 38710 3A1 38710 3A1 38710 3A1 38740
0788 0D00 0788 0 0000 0788 0 0000 0789 0 D000 078A 0 FFFF 078B 0 FFFF 078C 0 FFFF 078D 0 FFFF 078E 0 FFFF 078E 0 FFFF 078F 0 6500 0792 0791 0 7003 0792 0 4400 0F69 0794 0 7003 0795 0 4400 0F69 0796 0 6600 0798 0797 0 7067	N5C3 N5C4 N5C5 N5C7 ************************************	MDX BSS DC OC OC OC OC OC OC OC OC OC OC OC OC OC	**** FT *** L L *** L L L L L L L L L L L L L L	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF  TEST  ********************************	OF LOX OPERATION  ***********************************	3A1 3846D 3A1 38470 3A1 38480 3A1 3850D 3A1 38510 3A1 3852D 3A1 3855D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3860D 3A1 3860D 3A1 3860D 3A1 3860D 3A1 38670 3A1 38670 3A1 38670 3A1 38670 3A1 3875D 3A1 3875D
0788 0000 0788 0 0000 0789 0 0000 0780 0 FFFF 0780 0 FFFF 078C 0 FFFF 078E 0 FFFF 078E 0 FFFF 078E 0 AAAD ADAR 1NSTRUCTION ************************************	N5C3 N5C4 N5C5 N5C7 ************************************	MDX BSS DC OC OC OC OC OC OC OC OC OC OC OC OC OC	*** *** FT ***1 L L ***2 L L L ***	A60D /0000 /D0D0 /FFFF /FFFF /FFFF /FFFF  TEST  ********************************	OF LOX OPERATION  ***********************************	3A1 3846D 3A1 38470 3A1 38480 3A1 38590 3A1 38510 3A1 3852D 3A1 38550 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3856D 3A1 3860D 3A1 3860D 3A1 3864D 3A1 38670 3A1 38670 3A1 38670 3A1 38670 3A1 38710 3A1 38710 3A1 38710 3A1 38740

0742 0 C50			LD	Ll	N601	LD ADDR OF N601 & XR 1	3 <b>A</b> 138780
07A4 0 FO			EOR		N601	ZERO WITH ADDR DF N601	3A 138790
07A5 D 4C1			8 S C	L	G604, &-	BRANCH ON ZERO	3A138800
D7A7 D 440 D7A9 D 301			BS1 DC	L	F000	IX 1 NOT LDADED	3A138810
77A7 0 300		G604	851	L	/3006 F005	ERR ID	3A138820
7AC 0 70	_	9004	MDX	-	A604	CK LDCK ON ERROR LDDP	3A138830
	•	****	-	***		*******	3A13884D 3A138850
7AD 0 620	0	A606	LDX		0	LD DISP#O TO XR 2	3A138860
7AE D CD	F		LD		N6D3	LD /FFFF	3A138870
7AF D C6	D 080C		LD	L2	N601	LD ADDR OF N601 & XR 2	3A13888D
781 O FD:	A		EDR		N601	ZERO WITH AODR DF N601	3A138890
782 D 4C			8 S C	L	-3,6069	BRANCH ON ZERO	3A138900
784 0 44			8\$1	L	FD00	XR 2 NOT LDADED	3A138910
0786 D 301			DC		/30D7	ERR ID	3A138920
0787 D 449 0789 D 701		6606		L	FD05	CK LOCK ON ERROR	3A13893D
יטו ט לפוע	3	****	MDX		A606	LOOP	3A138940
078A D 630	n.	A608	LDX		0		3A138950
0788 0 CO		AOUS	LD	,	N603	LD DISP#O TD XR 3 LD /FFFF	3A13896D
78C 0 C7	_		ĹD	13	N6D1	LD ADDR OF N601 & XR 3	3A138970 3A13898D
78E 0 FD			EOR		N601	ZERO WITH ADDR OF N601	3A138990
78F D 4C	8 0704		8 S C	L	-3,8dag	BRANCH ON ZERO	3A139000
7C1 0 44	0 0F69		851	Ĺ	F000	XR 3 NOT LDAGED	3A139D10
07C3 0 301	8		OC		/30D8	ERR ID	3A1 39020
D7C4 0 441		G6D8	851	L	FD05	CK LOCK ON ERROR	3A139D30
D7C6 <b>0</b> 701	3		MDX		A608	LODP	3A13904D
	_					*******	34139050
D7C7 D 611		A60A	LDX	1	-1	LO XR 1 WITH -1	3 <b>A139D6</b> D
D7C8 0 CO	-		ΓO		N6 D3	LO /1111	3A139D7D
D7C9 0 C50 D7C8 0 F0:			F D	LI	N601	LO ADDR OF N601 & XR 1	3A13908D
07CC 0 4C			EDR		N6DO	ZERO WITH ADDR OF N600	3A139D9D
07CE D 44			8 S C 8 S I	L	G60A, &-	BRANCH ON ZERO	3A1391D0
70D 0 30			00	Ł	FODD /30D9	AR 1 NOT LOADED	3A139110
07D1 0 44		G60A		L	F005	ERR 10 CK LOCK ON ERROR	3A139120
0703 0 70		000.	MDX		A6DA	LOOP	3A139130 3A139140
	-	****		***		*******	3A13915D
704 0 621	F	A60C	<b>LDX</b>		-1	LO XR 2 WITH -1	3A139160
0705 0 CD			LD		N603	LO /FFFF	3A139170
07D6 0 C6I			LD	£2	N601	LO ADDR OF N601 & XR 2	3A13918D
0708 0 FO			EOR		N6 D0	ZERO WITH ADDR OF N600	3A139190
07D9 0 4C			8 S C	L	-3,00 <del>0</del>	BRANCH ON ZERD	3A1 39200
0708 0 440			851	L	F000	XR 2 NOT LOADED	3A139210
07DD 0 300		6486	DC		/30DA	ERR 10	3A1 39220
07DE 0 440 07E0 D 7DI		G6DC	8S1 MOX	Ł	FDD5	CK LOCK ON ERROR	3A13923D
יטי ט טיינ	,	****			A6DC	LOOP	3A139240
07E1 D 63	F	A6DE			-1	LD XR 3 WITH -1	3A139250
07E2 D CD	-	AODE	LD	•	N603	LO /FFFF	3A139260 3A13927D
7E3 0 C7	-		LD	13	N6D1	LO ADDR OF N601 & XR 3	3A13928D
07E5 0 FD			EOR		N600	ZERO WITH ADDR OF N600	3A139290
07E6 0 4C			8 S C	L		BRANCH ON ZERO	3A139300
07E8 D 446			851	Ĺ	F000	XR 3 NOT LOADED	3A13931D
7EA D 300	8		DC		/30D8	ERR ID	3A139320
7E8 D 440	O DFC4	G60E	8 S I	L	FDD5	CK LOCK ON ERROR	3A139330
7 <b>EO 0 7D</b> F	3		MDX		A60E	LODP	3A139340
1150 0 101		****	****	***	*******	******	3A13935D
		8 600	LDX	Ll		LD XR 3 WITH &1	3A139360
D7EE 0 650			LD		N6D3	LO /FFFF	3A13937D
07EE 0 650	D					LD AODR OF N601 & XR 1	3 <b>A</b> 139380
07EE 0 650 07FD 0 CD: 07F1 0 C50	D 0 08DC		LD	Ll	N601		
07EE 0 650 07FD 0 CD: 07F1 0 C50 07F3 0 FD:	D O 08DC 9		LD Eor		N602	ZERU WITH ADDR DF N6D2	
07EE 0 650 07FD 0 CD: 07F1 0 C50 07F3 0 FD: 07F4 0 4C1	D O 08DC 9 8 D7F9		LD Eor 8SC	L	N602 J60D, &-	ZERU WITH ADDR DF N6D2 Branch on Zerd	3A13940D
07EE 0 650 07FD 0 CD: 07F1 0 C50 07F3 0 FD: 07F4 0 4C1 07F6 0 440	D O 08DC 9 8 D7F9 O DF69		LD EOR 8SC 8S1		N602 J60D,&- F000	ZERU WITH ADDR DF N6D2 Branch on Zerd Long Fdrm Ldx-Failed	3A13940D 3A139410
07EE 0 650 07FD 0 CD 07F1 0 C50 07F3 0 FD 07F4 0 4C1 07F6 0 440 07F8 0 300	D 08DC 9 8 D7F9 O DF69 C	1400	LD EOR 8SC 8S1 DC	L	N602 J60D, &- F000 /30DC	ZERO WITH ADDR DF N6D2 BRANCH ON ZERD LONG FDRM LDX-FAILED ERR ID	3A13939D 3A13940D 3A139410 3A13942D
07EE 0 650 07FD 0 CD: 07F1 0 C50 07F3 0 FD: 07F4 0 4C1 07F6 0 440	D 08DC 9 8 D7F9 0 DF69 C D DFC4	J600	LD EOR 8SC 8S1	L	N602 J60D,&- F000	ZERU WITH ADDR DF N6D2 Branch on Zerd Long Fdrm Ldx-Failed	3A13940D 3A139410

PAGE

07FC 0 6780 080E	<b>B</b> 602	LOX	13	N603	LO XR 3 WITH /FFFF	3A139460
07FE 0 C010		LO		N604	LO /0001	3A139470
07FF 0 C700 080C		LO	13	N601	LO AOOR OF N601 & XR 3	3A139480
		_		N600	ZERO WITH AOOR OF N600	3A139490
0801 0 F009		EOR				3A139500
0802 0 4C18 0807		8 S C	L	J602,&-	BRANCH ON ZERO	
0804 O 4400 OF69		851	L	F000	INDIRECT LOX FAILED	3A139510
0806 0 3000		OC		/3000	ERR 10	3A139520
0807 0 4400 OFC4	J602	ES1	L	F005	CK LOCK ON ERROR	3A139530
0809 0 70F2		MOX	_	B602	LOOP	3A139540
		MOX		A640	EXIT TO NEXT ROUTINE	3A139550
080A 0 7005					EXII IO NEXI KOOTINE	3A139560
0808 0 0808	N600	oc		N600		
080C 0 080C	N601	OC		N601		3A139570
0800 0 0800	N602	OC		N602		3A139580
OBOE O FFFF	N603	OC.		/FFFF		3A139590
080F 0 0001	N604	OC.		/0001		3A139600
	*					3A139610
	*			TEST	OF STX OPERATION	3A139620
				1631	OF STA OF CHAFTON	3A139630
	*					
					*****	3A139640
************	*****	*****	***	******	*********	
CORE DATA OR		OPER-				3A139660
ADDR INSTRUCTION	*8FI	ATION	FT	OPERANOS &	REMARKS IOESEQ# AT RIGHT	3A139670
*****	*****	****	***	********	*********	3A139680
				N644	LO /FFFF	3A139690
0810 0 CO6D	A640	LO				3A139700
0811 0 0069		STO		N640	SAVE	
0812 0 COFF	H640	LO		H640	LO /COFF	3A139710
0813 0 6867		STX		N640	STORE INST REG AT N640	3A139720
0814 0 F0F0	K640	EOR		H640	CK THAT ACC WAS NOT	3A139730
001. 0 .0.0	*				* RESET BY STX	3A139740
0815 0 4C18 0810	•	8SC	L	G640,&-	BRANCH ON ZERO	3A139750
			_		ACC GONE AFTER STX	3A139760
0817 0 4400 0F69		851	L	F000		
0819 0 3167		oC		/3167	ERR 10	3A139770
081A 0 4400 OF98		BSI	L	F00E	CK LOCK ON ERROR	3A139780
081C 0 70F3		MOX		A640		3A139790
0810 0 C050	G640			N640	CK THAT STX STOREO CORECT	3A139800
081E 0 F050	0040	EOR		N642		3A139810
					BRANCH ON TERM	3A139820
081F 0 4C18 0824		BSC	L	G641, &-	BRANCH ON ZERO	
0821 0 4400 0F69		BSI	L	F 000	I CTR NOT STOREO	3A139830
0823 <b>0 30</b> 0E		oc		/300E	ERR IO	3A139840
0824 0 4400 OFC4	G641	851	L	F005	CK LOCK ON ERROR	3A139850
0826 0 70E9		MOX		A640	LOOP	3A139860
	****		***	********	******	3A139870
0027 0 0054					LO /FFFF	3A139880
0827 0 C056	A642			N644	T	3A139890
0828 0 0052		STO	_	N640	SAVE	
0829 0 6100		LOX	1	0	LO XR 1 WITH /0000	3A139900
082A 0 6950		STX	1	N640	STORE CXXR 10 AT N640	3A139910
0828 0 CO4F		L0		N640	LO C%N6400	3A139920
082C 0 4C18 0831		BSC	L	G642,&-	BRANCH ON ZERO	3A139930
082E 0 4400 0F69		851	ī	F000	XR 1 NOT STOREO	3A139940
0830 0 300F			-	/300F	ERR 10	3A139950
		00				3A139960
0831 0 4400 OFC4	G642		L	F005	CK LOCK ON ERROR	
0833 0 70F3		MOX		A642	LOOP	3A139970
	****	*****	***	********	******	3A139980
0834 0 CO49	A644	LO		N644	LO /FFFF	3A139990
0835 0 0045		STO		N640	SAVE	3A140000
0836 0 6200		LOX	2	0	LO XR 2 WITH /0000	3A140010
0837 0 6A43				N640	STORE CEXR 20 AT N640	3A140020
		STX	2			
0838 0 CO42		LO		N640	LO C%N640=	3A140030
5930 D //10 6030					BRANCH ON ZERO	3A140040
0839 0 4C18 083E		8 S C	L	G644, &-		
0838 0 4400 0F69			L	6044, &- F000	XR 2 NOT STOREO	3A140050
		8 S C				
0838 0 4400 0F69 0830 0 30E0	G644	8 S C 8 S I O C	L	F000 /30E0	XR 2 NOT STOREO ERR 10	3A140050
0838 0 4400 0F69 0830 0 30E0 083E 0 4400 0FC4	G644	851 0C 851		F000 /30E0 F005	XR 2 NOT STOREO ERR 10 CK LOCK ON ERROR	3A140050 3A140060 3A140070
0838 0 4400 0F69 0830 0 30E0		851 0C 851 MOX	L	F000 /30E0 F005 A644	XR 2 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP	3A140050 3A140060 3A140070 3A140080
0838 0 4400 0F69 0830 0 30E0 083E 0 4400 0FC4 0840 0 70F3	****	8 SC 8 S I OC 8 S I MOX	L	F000 /30E0 F005 A644	XR 2 NOT STOREO ERR IO CK LOCK ON ERROR LOOP	3A140050 3A140060 3A140070 3A140080 3A140090
0838 0 4400 0F69 0830 0 30E0 083E 0 4400 0FC4 0840 0 70F3		8 SC 8 S I OC 8 S I MOX ******	L	F000 /30E0 F005 A644 **********************************	XR 2 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LOOP LO /FFFF	3A140050 3A140060 3A140070 3A140080 3A140090 3A140100
0838 0 4400 0F69 0830 0 30E0 083E 0 4400 0FC4 0840 0 70F3 0841 0 C03C 0842 0 D038	****	8 SC 8 S I OC 8 S I MOX	L	F000 /30E0 F005 A644	XR 2 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LOOP LO /FFFF SAVE	3A140050 3A140060 3A140070 3A140080 3A140090 3A140100 3A140110
0838 0 4400 0F69 0830 0 30E0 083E 0 4400 0FC4 0840 0 70F3	****	8 SC 8 S I OC 8 S I MOX ******	L L ***	F000 /30E0 F005 A644 **********************************	XR 2 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LOOP LO /FFFF	3A140050 3A140060 3A140070 3A140080 3A140090 3A140100
0838 0 4400 0F69 0830 0 30E0 083E 0 4400 0FC4 0840 0 70F3 0841 0 C03C 0842 0 D038	****	8 SC 8 S I OC 8 S I MOX ****** LO STO	L L ***	F000 /30E0 F005 A644 **********************************	XR 2 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LOOP LO /FFFF SAVE	3A140050 3A140060 3A140070 3A140080 3A140090 3A140100 3A140110
0838 0 4400 0F69 0830 0 30E0 083E 0 4400 0FC4 0840 0 70F3 0841 0 C03C 0842 0 D038 0843 0 6300	****	8 SC 8 S I OC 8 S I MOX ****** LO S T O LOX	L L ***	F000 /30E0 F005 A644 **********************************	XR 2 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP **********************************	3A140050 3A140060 3A140070 3A140090 3A140090 3A140110 3A140120

0845	0	C035			LO		N640	LO C3N6400	3A140140
0944	^	4618	0848		226		C646-E-	BRANCH ON ZERO	3A140150
					030	_	507074	DRANCH UN ZENO	
0848	0	4400	0F69		851	L	F000	XR 3 NOT STOREO	3A140160
084A	^	20E1			OC		/30E1	ERR IO	3A140170
							, 200 L	CK LOCK ON EDDOD	
0848	0	4400	OFC4	G646	821	L	F005	CK LOCK ON ERROR	3A140180
0840	0	70F3			MOX		A040	LUUP	3A140190
00.0	_								3A140200
084E	0	COZE		A648	LO		N643	LO /0000	3A140210
084F	ñ	0028			STO		N640	SAVE	3A140220
0041	v	0020							
0850	0	61FF			LOX	1	-1	LO XR 1 WITH /FFFF	3A140230
0851	0	6929	•		STX	1	N640	STORE CXXR 10 AT N640	3A140240
							N640		3A140250
0852					LO				
0853	O	FO2A			E OR		N644	ZERO WITH /FFFF BRANCH ON ZERO	3A140260
0055	ž	4019	0859		950		N644 G648,&-	SDANCH ON TERM	3A140270
					63C	Ŀ	007016-	XR 1 NOT STOREO	
0856	0	4400	0F59		851	L	F000	XR 1 NOT STOREO	3A140280
0060	^	30E2			OC		/30E2	ERR IO	3A140290
								CK TOCK ON EDDOD	
0859	0	4400	OFC4	G648	851	L	F005		3A140300
DASA	Ω	70F2			MOX		A648	LOOP	3A140310
0030	•								3A140320
						***			
085C	0	CO20		A64 A	LO		N643	LO /0000	3A140330
					-			SAVE	3A140340
0050	U	0010 62FF			310		NOTO	JAVE	342 103 10
08 5E	0	62FF			LOX	2	-1	LO XR 2 WITH /FFFF	3A140350
0855	ñ	4418			CTY	2	N640	STORE CEXR 2D AT N640	3A140360
0001	•	6A1B			317	-			
0860	0	COLA			LO		N640	LD CAN6400	3A140370
0861	Λ	FO1C			FOR		NALL	JERO WITH JEFFF	3A140380
					000		0444 6	ADANCH ON TERM	3A140390
			0867		92C	L	G64A,&-	SKANCH UN ZEKU	
0864	0	4400	0F69		851	L	F000	ZERO WITH /FFFF 8RANCH ON ZERO XR 2 NOT STOREO	3A140400
		30E3			OC		/30E3	ERR 10	3A140410
								ERK 10	
0867	0	4400	OFC4	G64A	851	L	F005	CK LOCK ON ERROR	3A140420
0480	Λ	70F2			MOX		A64A	LOOP	3A140430
000,	•								3A140440
						***			
086A	0	CO 12		A64C	LO		N643	LO /0000	3A140450
	_				STO		N640	SAVE	3A140460
0000	U	63FF						SATE	
08 6C	0	63FF			LOX	3	-1	LO XR 3 WITH /FFFF	3A140470
0040	'n	6800			STX	2	N640	AT 11/10	241/0/00
								STURP EXXR 3D AT NOAU	3A14U48U
0000	•					•	NOTO	STORE CEXR 3D AT N640	3A140480
0000	•	COOC			LO	,	N640	LO CEN6400	3A140490
086E	Ö	COOC			L0	3	N640 N644	LO CENGADE  7FRO WITH /FFFF	3A140490
086E	0	COOC			LO E OR		N640 N644	LO CINGAGO ZERO WITH /FFFF	3A140490
086E	0	COOC			LO E OR 8SC	L	N640 N644 G64C,&-	LO CENGADE ZERO WITH /FFFF 8RANCH ON ZERO	3A140490 3A140500 3A140510
086E 086F 0870	0 0	C00C F00E 4C18	0875		LO E OR 8SC		N640 N644 G64C;&-	LO C%N640B ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO	3A140490
086E 086F 0870 0872	0000	C00C F00E 4C18 4400	0875 0F69		LO E OR 8SC 8SI	L	N640 N644 G64C,&- F000	LO C%N640D ZERO WITH /FFFF BRANCH ON ZERO XR 3 NOT STOREO	3A140490 3A140500 3A140510 3A140520
086E 086F 0870 0872 0874	0 0 0 0	C00C F00E 4C18 4400 30E4	0875 0F69		LO E OR 8SC 8 S I OC	L	N640 N644 G64C,E- F000 /30E4	LO C\$N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10	3A140490 3A140500 3A140510 3A140520 3A140530
086E 086F 0870 0872 0874	0 0 0 0	C00C F00E 4C18 4400 30E4	0875 0F69	<b>G</b> 64C	LO E OR 8SC 8 S I OC	L	N640 N644 G64C,E- F000 /30E4	LO C\$N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10	3A140490 3A140500 3A140510 3A140520
086E 086F 0870 0872 0874 0875	000000	C00C F00E 4C18 4400 30E4 4400	0875 0F69 0FC4		LO E OR 8SC 8SI OC 8SI	L	N640 N644 G64C;&- F000 /30E4 F005	LO C\$N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR	3A140490 3A140500 3A140510 3A140520 3A140530 3A140540
086E 086F 0870 0872 0874 0875	0000000	C00C F00E 4C18 4400 30E4 4400 70E2	0875 0F69 0FC4		EOR 8SC 8SI OC 8SI MOX	L	N640 N644 G64C,&- F000 /30E4 F005 A64C	LO C%N640¤ ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR IO CK LOCK ON ERROR LOOP	3A140490 3A140500 3A140510 3A140520 3A140530 3A140540 3A140550
086E 086F 0870 0872 0874 0875	0000000	C00C F00E 4C18 4400 30E4 4400 70E2	0875 0F69 0FC4		LO E OR 8SC 8SI OC 8SI	L	N640 N644 G64C;&- F000 /30E4 F005	LO C%N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR IO CK LOCK ON ERROR LOOP LO /0000	3A140490 3A140500 3A140510 3A140520 3A140530 3A140540 3A140550 3A140560
086E 086F 0870 0872 0874 0875	0000000	C00C F00E 4C18 4400 30E4 4400 70E2	0875 0F69 0FC4		LO EOR 8SC 8SI OC 8SI MOX LO	L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643	LO C%N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR IO CK LOCK ON ERROR LOOP LO /0000	3A140490 3A140500 3A140510 3A140520 3A140530 3A140540 3A140550
086E 086F 0870 0872 0874 0875 0877	00000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001	0875 0F69 0FC4		LO E OR 8SC 8SI OC 8SI MOX LO STO	L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640	LO C%N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000	3A140490 3A140500 3A140510 3A140520 3A140530 3A140540 3A140550 3A140550 3A140570
086E 086F 0870 0872 0874 0875 0877 0878 0879	000000000	COOC FOOE 4C18 4400 30E4 4400 70F2 COO4 0001 7004	0875 0F69 0FC4	<b>G64</b> C	EOR 8SC 8SI OC 8SI MOX LO STO MOX	L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 A660	LO C%N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140550 3A140550 3A140550 3A140550
086E 086F 0870 0872 0874 0875 0877 0878 0879	000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001	0875 0F69 0FC4		EOR 8SC 8SI OC 8SI MOX LO STO MOX	L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640	LO C%N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000	3A140490 3A140500 3A140510 3A140520 3A140530 3A140540 3A140550 3A140560 3A140570 3A140580 3A140590
086E 086F 0870 0872 0874 0875 0877 0878 0878	0000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7004	0875 0F69 0FC4	G64C N640	EOR 8SC 8SI OC 8SI MOX LO STO MOX OC	L	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 A660 /0000	LO C%N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000	3A140490 3A140500 3A140510 3A140520 3A140530 3A140540 3A140550 3A140560 3A140570 3A140580 3A140590
086E 086F 0870 0872 0874 0875 0877 0878 0879 0878	00000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7004 0000 0814	0875 0F69 0FC4	G64C N640 N642	EOR 8SC 8SI OC 8SI MOX LO STO MOX OC OC	L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 A660 /0000 K640	LO C%N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140550 3A140560 3A140570 3A140590 3A140600
086E 086F 0870 0872 0874 0875 0877 0878 0879 0878	00000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7004	0875 0F69 0FC4	G64C N640	EOR 8SC 8SI OC 8SI MOX LO STO MOX OC OC	L	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 A660 /0000	LO C%N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE	3A140490 3A140500 3A140510 3A140520 3A140530 3A140540 3A140550 3A140560 3A140570 3A140590 3A140600 3A140610
086E 086F 0870 0872 0874 0875 0877 0878 0879 087A 0878	00000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7004 0000 0814	0875 0F69 0FC4	G64C  N640 N642 N643 N644	LO EOR 8SC 8SI OC 8SI MOX LO STO MOX OC OC	L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 A660 /0000 K640 /0000	LO C%N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140550 3A140560 3A140570 3A140590 3A140600
086E 086F 0870 0872 0874 0875 0877 0878 0879 087A 0878	00000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7004 0000 0814	0875 0F69 0FC4	G64C  N640 N642 N643 N644	LO EOR 8SC 8SI OC 8SI MOX LO STO MOX OC OC	L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 A660 /0000 K640 /0000	LO C%N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE	3A140490 3A140500 3A140510 3A140520 3A140530 3A140540 3A140550 3A140560 3A140570 3A140580 3A140580 3A140600 3A140610 3A140620
086E 086F 0870 0872 0874 0875 0877 0878 0879 087A 087C 087C	000000000000	COOC FOOE 4C18 4400 30E4 4400 70F2 COO4 0001 7004 0000 0814 0000 FFFF	0875 0F69 0FC4	G64C N640 N642 N643 N644	LO E OR 8SC 8SI OC 8SI MOX LO STO MOX OC OC OC	L L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 /0000 K640 /0000 K640 /0000	LO C%N640B ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /OOOO RESTORE N640 TO /OOOO EXIT TO NEXT ROUTINE	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140550 3A140550 3A140570 3A140580 3A140690 3A140600 3A140610 3A140620 3A140630
086E 086F 0870 0872 0874 0875 0877 0878 0879 087A 087C 087C	000000000000	COOC FOOE 4C18 4400 30E4 4400 70F2 COO4 0001 7004 0000 0814 0000 FFFF	0875 0F69 0FC4	G64C N640 N642 N643 N644	LO E OR 8SC 8SI OC 8SI MOX LO STO MOX OC OC OC	L L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 /0000 K640 /0000 K640 /0000	LO C%N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140550 3A140550 3A140570 3A140580 3A140690 3A140600 3A140610 3A140620 3A140630
086E 086F 0870 0872 0874 0877 0878 0879 087A 087C 087C	00000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7000 0814 0000 FFFF	0875 0F69 0FC4	G64C N640 N642 N644 *****	LO E OR 8 SC 8 S1 OC 8 S1 MOX LO STO MOX OC OC OC 0C	L L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 /0000 K640 /0000 K640 /0000	LO C%N640B ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /OOOO RESTORE N640 TO /OOOO EXIT TO NEXT ROUTINE	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140550 3A140550 3A140570 3A140580 3A140590 3A140600 3A140610 3A140620 3A140630 3A140640
086E 086F 0870 0872 0874 0877 0878 0879 087A 087C 087C 087C	00000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7004 0000 0814 0000 FFFF	0875 0F69 0FC4	G64C N640 N642 N643 N644 *****	LO E OR 8 SC 8 S1 OC STO MOX OC OC OC *******	L L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 A660 /0000 K640 /0000 /FFFF	LO C%N640m ZERO WITH /FFFF ØRANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140550 3A140560 3A140590 3A140690 3A140600 3A140630 3A140630 3A140640 3A140650
086E 086F 0870 0872 0874 0875 0879 0878 0870 0870 087E ************************************	0000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7004 0000 FFFF *****	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ***** *****	LO E OR 8 SC 8 S1 OC STO MOX OC OC OC ********	L L L	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 A660 /0000 K640 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140560 3A140560 3A140590 3A140600 3A140630 3A140630 3A140660 3A140660 3A140660
086E 086F 0870 0872 0874 0875 0879 0878 0870 0870 087E ************************************	0000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7004 0000 FFFF *****	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ***** *****	LO E OR 8 SC 8 S1 OC STO MOX OC OC OC ********	L L L	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 A660 /0000 K640 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140560 3A140560 3A140590 3A140600 3A140630 3A140630 3A140660 3A140660 3A140660
086E 086F 0870 0872 0874 0875 0877 0878 0878 087C 087C 087C	000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7004 0000 FFF *****	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ****** ******	LO E OR 8 SC 8 S1 OC STO MOX OC OC OC ******* OC OC OC ********	L L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 A660 /0000 K640 /0000 /FFFF **************************	LO C%N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140560 3A140560 3A140590 3A140690 3A140610 3A140620 3A140630 3A140660 3A140660 3A140660 3A140660
086E 086F 0870 0872 0874 0875 0877 0878 0878 087C 087C 087C	000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7004 0000 FFFF *****	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ***** *****	LO E OR 8 SC 8 S1 OC STO MOX OC OC OC ******* OC OC OC ********	L L L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 A660 /0000 K640 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140560 3A140560 3A140580 3A140580 3A140600 3A140610 3A140620 3A140640 3A140660 3A140660 3A140660 3A140660 3A140660
086E 086F 0870 0872 0874 0875 0877 0878 0870 0876 0870 087E	00000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0000 0814 0000 FFFF *****	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ****** ******	LO E OR 8 SC 8 S1 OC 8 S1 MOX LO STO MOX OC OC OC ****************************	L L L FT +++++++++++++++++++++++++++++++	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 A660 /0000 K640 /0000 /FFFF **************************	LO C%N640D ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140560 3A140560 3A140590 3A140690 3A140610 3A140620 3A140630 3A140660 3A140660 3A140660 3A140660
086E 086F 0870 0872 0874 0877 0878 0879 087A 087C 087C 087C 087C 087C	***	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7004 0000 FFFF ***** 6100 6200	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ****** ******	LO E OR 8 SC 8 S1 OC STO MOX OC OC OC ****************************	L L L FT + + + + 1 2	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 A660 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /OOOO RESTORE N640 TO /OOOO EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140510 3A140520 3A140530 3A140550 3A140550 3A140560 3A140580 3A140590 3A140600 3A140610 3A140620 3A140630 3A140650 3A140660 3A140660 3A140660 3A140660 3A140680 3A140680 3A140680
086E 086F 0870 0872 0874 0877 0878 0879 087A 087C 087C 087C 087C 087E ************************************	000000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0000 0814 0000 FFF ***** 6100 6200 6300	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ****** ******	LO E OR 8 SC 8 SI 0 C 8 SI MOX LO STO MOX OC 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0	L L L FT 2 3	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 /0000 K640 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR IO CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140550 3A140560 3A140580 3A140590 3A140600 3A140600 3A140630 3A140640 3A140660 3A140660 3A140660 3A140670 3A140690 3A140690 3A140690 3A140690
086E 086F 0870 0872 0874 0877 0878 0879 087A 087C 087C 087C 087C 087E ************************************	000000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0000 0814 0000 FFF ***** 6100 6200 6300	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ****** ******	LO E OR 8 SC 8 S1 OC STO MOX OC OC OC ****************************	L L L FT 2 3	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 A660 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140530 3A140540 3A140550 3A140560 3A140570 3A140590 3A140690 3A140610 3A140640 3A140650 3A140660 3A140660 3A140660 3A140670 3A140670 3A140710
086E 086F 0870 0872 0874 0875 0877 0878 0876 0876 0876 0876 0876 0876	0000000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7000 0814 0000 FFFF ***** 6100 6200 6300 61FF	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ****** ******	LO E OR 8 SC 8 SC 0 C 8 SC 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0	L L L FT 1231	N640 N644 G64C, &- F000 /30E4 F005 A64C N643 N640 A660 /0000 K640 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140550 3A140560 3A140580 3A140590 3A140600 3A140600 3A140630 3A140640 3A140660 3A140660 3A140660 3A140670 3A140690 3A140690 3A140690 3A140690
086E 086F 0870 0872 0874 0877 0878 0879 087A 087C 087C 087C 087C 087C 087C 087C 087C	000000000000000000000000000000000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0000 0814 0000 FFF 1NS ***** 6100 6300 6300 641FF 6A44	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ****** ******	LO E OR 8 SC 8 S1 OC 8 S1 MOX LO STO MOX OC OC OC ******* COC OC ATION ***** LOX LOX LOX STX	L L L FT 1231	N640 N644 G64C, &- F000 /30E4 F005 A64C N643 N640 A660 /0000 /FFFF **************************	LO C%N640m  ZERO WITH /FFFF  ØRANCH ON ZERO  XR 3 NOT STOREO  ERR 10  CK LOCK ON ERROR  LOOP  LO /0000  RESTORE N640 TO /0000  EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140550 3A140560 3A140590 3A140690 3A140600 3A140600 3A140660 3A140660 3A140660 3A140670 3A140670 3A140710 3A140720
086E 086F 0870 0872 0874 0877 0878 0879 087A 087C 087C 087C 087C 087C 087C 087C 087C	000000000000000000000000000000000000000	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7000 0814 0000 FFFF ***** 6100 6200 6300 61FF	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ****** ******	LO E OR 8 SC 8 SC 0 C 8 SC 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0	L L L FT 1231	N640 N644 G64C, &- F000 /30E4 F005 A64C N643 N640 A660 /0000 K640 /0000 /FFFF **************************	LO C%N640m  ZERO WITH /FFFF  8RANCH ON ZERO  XR 3 NOT STOREO  ERR 10  CK LOCK ON ERROR  LOOP  LO /0000  RESTORE N640 TO /0000  EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140550 3A140560 3A140570 3A140590 3A140600 3A140610 3A140620 3A140640 3A140640 3A140660 3A140660 3A140670 3A140670 3A140710 3A140710 3A140730
086E 086F 0870 0872 0874 0877 0878 0879 087A 087C 087C 087E ************************************	******	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7004 0000 FFF ***** 6100 6200 61FF 6A44 C043	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ****** ******	LO E OR 8SC 8SI OC STO MOX OC OC *******************************	L L L FT 1 2 3 1 2	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 A660 /0000 /FFFF **************************	LO C%N640m  ZERO WITH /FFFF  ØRANCH ON ZERO  XR 3 NOT STOREO  ERR 10  CK LOCK ON ERROR  LOOP  LO /0000  RESTORE N640 TO /0000  EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140550 3A140560 3A140590 3A140690 3A140600 3A140600 3A140660 3A140660 3A140660 3A140670 3A140670 3A140710 3A140720
086E 086F 0870 0872 0877 0878 0877 0878 0876 087C 087E ***** 0886 0881 0882 0884 0885	***************************************	C00C F00E 4C18 4C400 30E4 4C400 70F2 C004 0000 0814 0000 FFF ***** 6100 6300 61FF 6AC4 C043 4C18	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ****** ******	LO E OR 8 SC 8 SI OC 8 SI MOX OC OC 0C ******************************	L L L FT 1 2 3 1 2 L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 /0000 K640 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /OOOO RESTORE N640 TO /OOOO EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140510 3A140520 3A140530 3A140550 3A140550 3A140560 3A140580 3A140590 3A140600 3A140610 3A140620 3A140630 3A140660 3A140660 3A140670 3A140670 3A140730 3A140730 3A140730 3A140730
086E 086F 0870 0872 0877 0878 0877 0878 0876 087C 087E ***** 0886 0881 0882 0884 0885	***************************************	C00C F00E 4C18 4C400 30E4 4C400 70F2 C004 0000 0814 0000 FFF ***** 6100 6300 61FF 6AC4 C043 4C18	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ****** ******	LO E OR 8SC 8SI OC STO MOX OC OC *******************************	L L L FT 1 2 3 1 2	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 /0000 K640 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR IO CK LOCK ON ERROR LOOP LO /O000 RESTORE N640 TO /O000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140530 3A140550 3A140550 3A140550 3A140580 3A140590 3A140600 3A140600 3A140660 3A140660 3A140660 3A140660 3A140670 3A140670 3A140750
086E 086F 0870 0872 0875 0877 0878 0879 0876 0870 0876 0876 0876 0876 0881 0882 0883 0885 0885	***************************************	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0000 0814 0000 FFF ***** 6100 6300 61FF 6A44 4C043 4400	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ****** ******	LO E OR 8 SC 8 SC 0 C 8 SC 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0	L L L FT 1 2 3 1 2 L	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 /0000 K640 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /OOOO RESTORE N640 TO /OOOO EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140510 3A140520 3A140530 3A140550 3A140550 3A140560 3A140580 3A140590 3A140600 3A140610 3A140620 3A140630 3A140660 3A140660 3A140670 3A140670 3A140730 3A140730 3A140730 3A140730
086E 086F 0870 0872 0874 0877 0878 0879 0878 0876 0870 0876 0870 0876 0876 0882 0883 0884 0885 0887 0887	***************************************	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7004 0000 FFFF ***** 6100 6300 61FF 6A44 C043 4C18 3157	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ***** **BEL *****	LO E OR 8 SC 8 SC 8 SC 0 C OC OX ST X LO X ST X LO X ST X LO X SC 8 SC 8 SC 0 C OC 8 SC 0 C OC O	L L L FT** 1 2 3 1 2 L L	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 A660 /0000 K640 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140530 3A140530 3A140550 3A140550 3A140560 3A140570 3A140590 3A140600 3A140600 3A140600 3A140660 3A140660 3A140660 3A140660 3A140670 3A140690 3A140770
086E 086F 0870 0872 0874 0877 0878 0879 0878 0876 0870 0876 0870 0881 0882 0883 0884 0885 0889 0888	***************************************	C00C F00E 4C18 4400 30E 4400 70F2 C004 0001 7004 0081 4000 FFF ***** 6100 6300 61FF 6A44 C043 4C18 4C18 4C18 4C18 4C18 4C18 4C0 4C0 4C0 4C0 4C0 4C0 4C0 4C0 4C0 4C0	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ****** ******	LO E OR 8 S C 8 S C 1	L L L FT** 1 2 3 1 2 L L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 A660 /0000 K640 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140560 3A140560 3A140590 3A140690 3A140610 3A140640 3A140660 3A140660 3A140660 3A140670 3A140690 3A140700 3A140770 3A140770 3A140770
086E 086F 0870 0872 0874 0877 0878 0879 0878 0876 0870 0876 0870 0881 0882 0883 0884 0885 0889 0888	***************************************	C00C F00E 4C18 4400 30E 4400 70F2 C004 0001 7004 0081 4000 FFF ***** 6100 6300 61FF 6A44 C043 4C18 4C18 4C18 4C18 4C18 4C18 4C0 4C0 4C0 4C0 4C0 4C0 4C0 4C0 4C0 4C0	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ***** **BEL *****	LO E OR 8 SC 8 SC 8 SC 0 C OC OX ST X LO X ST X LO X ST X LO X SC 8 SC 8 SC 0 C OC 8 SC 0 C OC O	L L L FT** 1 2 3 1 2 L L	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 A660 /0000 K640 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140530 3A140530 3A140550 3A140550 3A140560 3A140570 3A140590 3A140600 3A140600 3A140600 3A140660 3A140660 3A140660 3A140660 3A140670 3A140690 3A140770
086E 086F 0870 0872 0874 0877 0878 0879 087A 087C 087C 087C 087G 0881 0882 0883 0884 0885 0887 0886	***************************************	C00C F00E 4C18 4400 30E4 4400 70F2 C004 0001 7004 0000 FFF ***** 6100 6300 6300 6306 6444 C043 4400 70F2	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ***** **BEL *****	LO E OR 8 S C 1 OC 8 S C 1 OC OC OC 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0	LL L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 A660 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF ØRANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140520 3A140530 3A140550 3A140550 3A140560 3A140590 3A140590 3A140600 3A140620 3A140630 3A140660 3A140660 3A140670 3A140670 3A140730 3A140740 3A140740 3A140770 3A140770 3A140770 3A140770 3A140770
086E 086F 0870 0872 0874 0877 0878 0877 0878 0870 0878 0870 0881 0882 0883 0884 0885 0887 0889 08880 0889		C00C F00E 4C18 4400 30E40 70F2 C004 0001 7004 0000 FFF ***** 6100 6300 61FF 6A44 C043 4C18 4400 3157 4400 70F2 683A	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ***** **BEL *****	LO E OR 8 S C 8 S C 1	LL L	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF ØRANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140530 3A140530 3A140550 3A140550 3A140560 3A140580 3A140590 3A140600 3A140610 3A140620 3A140630 3A140640 3A140660 3A140670 3A140700 3A140770
086E 086F 0870 0872 0874 0877 0878 0877 0878 0870 0878 0870 0881 0882 0883 0884 0885 0887 0889 08880 0889		C00C F00E 4C18 4400 30E40 70F2 C004 0001 7004 0000 FFF ***** 6100 6300 61FF 6A44 C043 4C18 4400 3157 4400 70F2 683A	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ***** **BEL *****	LO E OR 8 S C 1 OC 8 S C 1 OC OC OC 0 C 0 C 0 C 0 C 0 C 0 C 0 C 0	LL L	N640 N644 G64C,&- F000 /30E4 F005 A64C N643 N640 A660 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF ØRANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140530 3A140550 3A140550 3A140560 3A140580 3A140590 3A140600 3A140600 3A140630 3A140640 3A140660 3A140660 3A140670 3A140710 3A140770
086E 086F 0870 0872 0878 0877 0878 0879 0878 0870 0876 ***** 0886 0881 0882 0888 0885 0887 0888 0888 0888		C00C F00E 4C18 4C18 4C18 4C18 4C18 4C10 70F2 C004 70F2 C001 7000 0814 0000 FFF ***** 6100 6300 61FF 6A44 4C18 4C18 4C18 4C18 4C18 4C18 4C18 4C	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ***** **BEL *****	LO E OR 8 SC 1	L L L 3	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 /0000 K640 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF 8RANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /O000 RESTORE N640 TO /O000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140530 3A140550 3A140550 3A140560 3A140580 3A140590 3A140600 3A140600 3A140630 3A140640 3A140660 3A140660 3A140670 3A140710 3A140770
086E 086F 0870 0872 0878 0877 0878 0879 0878 0870 0876 ***** 0886 0881 0882 0888 0885 0887 0888 0888 0888		C00C F00E 4C18 4C18 4C18 4C18 4C18 4C10 70F2 C004 70F2 C001 7000 0814 0000 FFF ***** 6100 6300 61FF 6A44 4C18 4C18 4C18 4C18 4C18 4C18 4C18 4C	0875 0F69 0FC4 ************************************	G64C N640 N642 N643 N644 ***** **BEL *****	LO E OR 8 S C 8 S C 1	L L L 3	N640 N644 G64C, E- F000 /30E4 F005 A64C N643 N640 /0000 /FFFF **************************	LO C%N640m ZERO WITH /FFFF ØRANCH ON ZERO XR 3 NOT STOREO ERR 10 CK LOCK ON ERROR LOOP LO /0000 RESTORE N640 TO /0000 EXIT TO NEXT ROUTINE  ***********************************	3A140490 3A140500 3A140510 3A140530 3A140530 3A140550 3A140550 3A140560 3A140580 3A140590 3A140600 3A140610 3A140620 3A140630 3A140640 3A140660 3A140670 3A140700 3A140770

IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

CPU FUNCTION TEST

0891 0 4400 0F69		851	L	F000	XR 3 CHANGED	3A140B20
0893 0 3158		DC		/3158	ERR ID	3A140B30
0894 C 4400 OFC4	G661	BSI	Ł	F005	CK LOCK ON ERROR	3A140840
0896 0 70E8		MOX		A660	LOOP	3A140850
0007 0 4100		LDX	+++·		LO XR 1 WITH /0000	3A140860 3A140870
0897 0 6100 0898 0 6200	A662	FDX	2	-	LD XR 2 WITH /0000	3A140880
0899 0 6300		FDX	3		LO XR 3 WITH /0000	3A140890
089A 0 62FF		LDX		-1	LD XR 2 WITH /FFFF	3A140900
089B 0 692C		STX		N660	STORE CEXR 1m AT N660	3A140910
089C 0 C028		LO		N660	LD C%N660=	3A140920
0890 0 4C18 08A2		8SC	Ł	G662,E-	BRANCH ON ZERO	3A140930
089F 0 4400 0F69		851	Ł	F000	XR 1 CHANGEO	3A140940
08A1 0 3159		DC		/3159	ERR 10	3A140950
08A2 0 4400 0F98	G662	851	Ł	FOOE	CK LOCK ON ERROR	3A140960
08A4 0 70F2 08A5 0 6822		MDX STX	2	A662 N660	LOOP STORE CXXR 3 AT N660	3A140970
08A6 0 COZ1		FD	9	N660	LD C\$N660B	3A140980 3A140990
08A7 0 4C18 08AC		8SC ·	L	6663.6-	BRANCH ON ZERO	3A141000
08A9 0 4400 0F69		851	ũ	F000	CK LOCK ON ERROR	3A141010
08A8 0 315A		DC	_	/315A	ERR ID	3A141020
08AC 0 4400 0FC4	G663	BSI	L	F005	CK LOCK ON ERROR	3A141030
08AE 0 70E8		MOX		A662	LOOP	3A141040
					******	3A141050
08AF 0 6100	A664	LDX	1		CK DISTRUCTION OF	3A141060
08B0 0 6200		FDX	2	0	OTHER INDEXES XRas Have /0000	3A141070
0881 0 6300 08B2 0 63FF		FDX	_	-1	LO XR 3 WITH /FFFF	3A141080 3A141090
0883 0 6914		STX		N660	STORE CXXR 1º AT N660	3A141100
0884 0 CO13		LD	•	N660	LD CEN660B	3A141110
0885 0 4C18 08BA		8SC	L	G664, E-	BRANCH DN ZERO	3A141120
0887 0 4400 OF69		851	ī	F000	XR 1 CHANGEO	3A141130
0889 0 3158		DC		/3158	ERR 10	3A141140
088A 0 4400 0F98	G664	<b>BS1</b>	Ł	FOOE	CK LOCK ON ERROR	3A141150
088C 0 70F2		HOX		A664	LOOP	3A141160
088D 0 6A0A		STX	2	N660	STORE CEXE 20 AT N660	3A141170
088E 0 C009		FO		N660	LO CINGGO	3A1411B0
088F 0 4C1B 08C4 08C1 0 4400 0F69		BSC BSI	L	G665,&- F000	BRANCH DN ZERO XR 2 CHANGEO	3A141190
08C3 0 315C		DC	L	/315C	ERR 10	3A141200 3A141210
08C4 0 4400 OFC4	G665	851	L	F005	CK LOCK ON ERROR	3A141220
08C6 0 70E8		HOX	_	A664	LOOP	3A141230
08C7 0 7001		MDX		A670	EXIT TO NEXT ROUTINE	3A141240
0808 0 0000	N660	DC		0		3A141250
	****	****	***	********	*******	3A141260
0869 0 6110	A670	LDX	1	16	LO XR 1 WITH /0010	3A141270
08CA 0 CO10 08C8 0 4C18 0804	C 4 7 3	FD		N670	LOAD ONE	3A1412B0
08C0 0 1001	G671	8SC	Ł	G670+E-	NOT BR FOR CORRECT OP	3A141290
08CE 0 71FF	G672	SLA MDX	1	1 -1	-1 FROM CEXR 15	3A141300 3A141310
08CF 0 70F8		HOX	•	G671	* - LOU PANK IN	3A141320
08D0 0 4400 0FC4		851	L	F005	CK LOCK ON ERROR	3A141330
0802 0 70F6		MDX	-	A670	LOOP	3A141340
08D3 0 7008		MOX		A680	EXIT TO NEXT ROUTINE	3A141350
08D4 0 4400 0F69	G670	851	L	F000	WRONG DECODE OF ZERO ACC	3A141360
08D6 0 3169		DC		/3169	ERR 10	3A141370
0807 0 4400 0F98		851	Ł	FOOE	CK LOCK ON ERROR	3A1413B0
08D9 0 70EF		MDX		A670	LOOP	3A141390
08DA 0 70F2 08D8 0 0001	N670	MOX DC		G672		3A141400
0000 0 0001	*	DC		1		3A141410
	*			TEST	OF ADD OPERATION	3A141420 3A141430
	*				TO THE WILLIAM STATE	3A141440
	****	****	***	*******	*****	34141450
*********	*****	****	***	********	********	3A141460
CORE DATA OR	*LA-	OPER-				3A141470
ADOR INSTRUCTION	*8EL	ATION	FT	DPERANOS &	REMARKS IDESEQ# AT RIGHT	3A141480
		<b>= = = +</b> +	***:	********	****************	3A141490

0800 0 2002	A680	LOS		2	SET CARRY ON	3A141500
OBDD O COSE		LO		N6 80	LD /FFFF	3A141510
080E 0 806E		A		N681	A /0000	3A141520
080F 0 4C01 08E2		8SC	Ł		CK FOR OVERFLOW ON	3A141530
08El 0 7003		MOX		H680	OVERFLOW IS OFF	3A141540
08E2 0 4400 0F69	G680	8 S I	L	F000	OVERFLOW IS ON	3A141550
08E4 0 30E5		DC		/30E5	ERR 10	3A141560
08E5 0 4400 0F98	H680	BSI	Ł	FOOE	CK LOCK ON ERROR	3A141570
08E7 0 70F4		MDX		A680	LOGP	3A141580
08EB 0 F063		EOR		N6 80	CK IF AOD ZERO	3A141590
08E9 0 4C18 08EE		8SC	L	G682,&-	* CHANGED ACC	3A141600
08E8 0 4400 0F69		851	L	F000	AOO 1 AND O FAILED	3A141610
08ED 0 30E6		DC		/30E6	ERR IO	3A141620
08EE 0 4400 0FC4	G682	BSI	Ł	F005	CK LOCK ON ERROR	3A141630
08F0_0 70E8		MOX		A680	LOOP	3A141640
0.55			***		*******	3A141650
08F1 0 2000	A684	LDS		0	SET C AND OF OFF	3A141660
08F2 0 C059		LD		N680	LD /FFFF	3A141670
08F3 0 805A		A		N682	A /0001	3A141680
08F4 0 4C02 08F9		8SC	L		CK IF CARRY OCCURED	3A141690
08F6 0 4400 0F69		851	Ł	F000	CARRY NOT ON	3A141700
0858 0 3057	C 4 0 4	DC		/30E7	ERR ID	3A141710
08F9 0 4400 0F98 08FB 0 70F5	G684		L	FOOE	CK LOCK ON ERROR	3A141720
		MDX		A684	LOOP	3A141730
08FC 0 4ClB 0901 08FE 0 4400 0F69		BSC	L	G686,E-	BRANCH ON ZERO	3A141740
0900 0 30E8		85 I 0C	L	F000	ADO FFFFE0001 FAILEO	3A141750
0901 0 4400 0FC4	G686	8S 1		/30E8	ERR ID	3A141760
0903 0 70ED	6000	MOX	L	F005 A684	CK LOCK ON ERROR	3A141770
0,03 0 .025	****		***		********	3A141780
0904 0 2000	A688			0	SET C ANO OF OFF	3A141790
0905 0 CO46	4000	FO		N680	LD /FFFF	3A141800 3A141810
0906 0 8045		Ā		N680	A /FFFF	3A141820
0907 0 4002 0900		850	Ł		8R DN CARRY	3A141830
0909 0 4400 0F69		BSI	Ĺ	F000	CARRY NOT ON	3A141840
090B 0 30E9		oc	-	/30E9	ERR IO	3A141850
090C 0 44C0 0F9B	G6B8		L		CK LOCK ON ERROR	3A141860
090E 0 70F5		MOX	_	888A	LOOP	3A141870
090F 0 F042		EOR		N687	ZERO WITH /FFFF	3A141880
0910 0 4018 0915			L		BRANCH ON ZERO	3A141890
0912 0 <del>44</del> 00 0F69		851	Ł	F000	ADO FFFFEFFF FAILED	3A141900
0914 0 30FA		OC.		/30FA	ERR 10	3A141910
0915 0 4400 OFC4	G68A	8 S I	L	F005	CK LOCK ON ERROR	3A141920
0917 0 70EC		MOX		A688	LOOP	3A141930
	****	****	***	*******	*******	3A141940
0918 0 2000	A68C	LOS		0	SET C AND OF OFF	3A141950
0919 0 C035		LO.		N683	LO /4000	3 <b>A141960</b>
091A 0 8034		A		N683	A /4000	3A141970
0918 0 4001 0920			L	G68C, O	8R IF OF NOT ON	3A141980
0910 0 4400 0F69		851	L	F000	OVERFLOW NOT ON	3A141990
091F 0 30E8		DC		/30E8	ERR ID	3A142000
0920 0 4400 0F98	G68C	851	L	FOOE	CK LOCK ON ERROR	3A142010
0922 0 70F5		MOX		A68C	LOOP	3A142020
0923 0 F02C		EOR		N684	ZERO WITH /8000	3A142030
0924 0 4C18 0929			L		BRANCH ON ZERO	3A142040
0926 0 4400 0F69		851	L	F000	AOD 400084000 FAILE0	3A142050
0928 0 30EC	C / O F	00		/30 EC	ERR ID	3A142060
0929 0 4400 0FC4	G68E		Ł	F005	CK LOCK ON ERROR	3A142070
0928 0 70EC	****	MOX	***	A68C	LOOP	3A142080
0020 0 2000			~ ~ ~			3A142090
0926 0 2000	B680			0 N684	SET C AND OF OFF	3A142100
0920 0 C022 092E 0 B021		LO A			LO /8000	3A142110
092F 0 2823		STS		N684 N688	A /BOOO STORE C AND OF COND	3A142120
092F 0 2825 0930 0 4C18 0935			L		STUKE C AND OF COMP BRANCH ON ZERO	3A142130 3A142140
0932 0 4400 0F69		851	Ĺ		A00 800083000 FAILED	3A142150
0934 0 30ED		00	_	/30ED	ERR 1D	3A142160
0935 0 4400 OF9B	J680		L	FOOE	CK LOCK ON ERROR	3A142170
			_			

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18M MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM CPU FUNCTION TEST

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0937 0	70E4			MOX		8680	LOOP	3A142180
0938 0				LO		N688	LD C AND OF COND	3A142190
0939 0				EOR		N686	ZERO WITH /0003	3A142200
093A 0		0048		BSC	L	J682-E-	BRANCH ON ZERO	3A142210
0930 0				8 S C	ī	K682.E	8R ON NOT EVEN	3A142220
093E 0				128	ī	F000	CARRY NOT ON	3×142230
0940 0		UF U7		oc.	-	/30EF	ERR ID	3A142240
0940 0		OEC4		esi	L	F005	CK LCCK ON ERROR	3A142250
0943'0		UFC4		MOX	•	8680	LOOP	3A142260
				MOX		A6CO	EXIT TO NEXT ROUTINE	3A142270
0944 0	-	0540	K682	851	L	F000	OVERFLOW NOT ON	3A142280
0945 0		Urby	K002	OC	٠.	/30EE	ERR ID	3A142290
0947 0		0564	14.03	851	L	F005	CK LOCK ON ERROR	3A142300
0948 0		UFC4	J682	WOX	L	B680	LOOP	3A142310
094A 0				MOX		A6C0	EXIT TO NEXT ROUTINE	3A142320
0948 0						/FFFF		3A142330
094C 0			N680	DC OC		/0000		3A142340
0940 0			N681	DC		/0001		3A142350
094E 0			N682	00		/4000		3A142360
094F 0			N683	00				3A142370
0950 0			N684	OC.		/8000 /0003		3A142380
0951 0			N686	00				3A142390
0952 0			N687	OC		/FFFE	STORAGE .	3A142400
0953 0	0000		N6B8	oc		/0000 ·		3A142410
			*			thos v	ING TEST	3A142420
			*			INDEX	ING IEST	3A142430
			*				*****	3A142440
			*****				******	
						****		3A142460
CORE	DAT	A OR	*LA-	UPEK-			REMARKS 10&SEQ# AT RIGHT	
<b>AOOR</b>	INS.	TRUCTION	*8EL	ATION	FI	OPERANOS &	*****************	34142480
		*****					LO XR 1 WITH -4	3A142490
0954 0			A6C0	LOX	_	-4	LD CXN6C4EXR 1P	3A142500
0955 0		0900		LO.	LI	N6C4	ZERO ACC IF CORRECT OP	3A142510
0957 0				EOR		N6CO	8R IF NOT ZERO	3A142520
0958 0		0966		8SC	L.		STORE CEXE 12 AT N6C9	3A142530
095A 0				STX	1	N6C9	GET XR 1 VALUE	3A142540
0958 0				LO		N6C9	ZERO ACC IF CORRECT	3A142550
095C 0				EOR		N6CA	BRANCH ON ZERO	3A142560
0950 0				8SC	L			3A142570
095F 0				BSI	L		YR 1 LOAOEO WRONG Err Io	3A142580
0961 0				OC.		/30F0		3A142590
0962 0				BSI	L	F005	CK LOCK ON ERROR	3A142600
0964 0	_			MOX		A6C0	LOOP EXIT TO NEXT ROUTINE	3A142610
0965 0				MOX		A6C2	WRONG LOCATION	3A142620
0966 0			H6C0	BSI	L.			3A142630
0968 0				OC.		/30F1	ERR IO CK LOCK ON ERROR	3A142640
0969 0			G6C0	851	L	F005		3A142650
0968 0	70E8			MOX		A6C0	LOOP	3A142660
							**************************************	3A142670
096C 0			A6C2	LOX		! 4		3A1426B0
0960 0	_			LO	Lá	2 N6C4	LO CENGCAEXR 2D	3A142690
096F 0				EOR		N6C8	ZERO ACC IF CORRECT 8R IF NOT ZERO	3A142700
0970						H6C2+Z		3A142710
0972 0				STX	- 2	N6C9	STORE XR 2 AT N6C9	3A142720
0973 0				LO		N6C9	GET XR 2 VALUE ZERO ACC 1F CORRECT	3A142730
0974 (				EOR		N6CB		3A142740
0975 0				8SC	L		BRANCH ON Z'RO	3A142750
0977				BSI	L		XR 2 LOADEO WRONG	3A142760
0979				OC.		/30F2	ERR 10	3A142770
097A C				851	L	F005	CK LOCK ON ERROR	3A142780
097C (				MOX		A6C2	LOOP EXIT TO NEXT ROUTINE	3A142790
0970				MOX		A6C4	WRONG LOCATION	3A142800
097E (			H6C2	851	L	F000		3A142810
0980				OC		/30F3	ERR IO CK LOCK ON ERROR	3A142820
		OFC4	G6C2	8 S I	L			3A142830
0983 (	70E8	3		MOX		A6C2	LOOP	3A142840
		_					*******************	3A142850
0984 (	6300	)	A6C4	LOX		3 0	SET XR 3 TO ZERO	JH 145 070

0985 0 C700 09D	) L0	L3	N6C4	LD C%N6C4&XR 3"	3A142860
0987 0 F048	EO	R	N6C4	ZERD ACC IF CURRECT	3A142870
0988 0 4020 099			H6C4+2	8R IF NOT ZERO	3A142880
098A 0 684A	ST		N6C9	STORE XR 3 AT N6C9	3A142890
0988 0 CO49	LO		N6C9	LD /0000	3A142900 3A142910
D98C 0 4C1( 099			6664.8-	BRANCH ON ZERO	3A142920
098E 0 4400 0F6			F000	XR 3 LOAGEO WRONG	3A142920 3A142930
0990 0 30F4	00		/30F4	ERR IO	3A142940
0991 0 4400 OFC			F005	CK LOCK ON ERROR	3A142950
0993 0 70F0	MO		A6C4	LOOP EXIT TO NEXT ROUTINE	3A142960
D994 0 7006	MC DE		A6C6 F000	WRONG LOCATION	3A142970
0995 0 4400 0F6			/30F5	ERR 10	3A142980
0997 0 30F5	00 4 G6C4 8S	-		CK LOCK ON ERROR	3A142990
0998 0 4400 OFC	4 GOL4 83		A6C4	LOOP	3A143000
099A 0 70E9				*****	3A143010
0998 0 6301			1	SET XR 3 TO &I	3A143020
0996 0 6301			N6C4	LD CEN6C4EXR 3º	3A143030
099E 0 F032	-	DR	N6C5	ZERO FOR CORRECT OF	3A143040
099F 0 4C20 09A		SC L		8R IF NOT ZERO	3A143050
0941 0 6833	_		N60.9	STORE XR 3 AT N6C9	3A143060
09A2 0 C032	LO		N6C9	LD CEN6C9m	3A143070
09A2 0 C032		OR .	N6CO	ZERO ACC FOR CORRECT OF	3A143080
09A4 0 4C18 09E		SC L		SRANCH ON ZERD	3A143090
09A6 0 4400 OF	•	SI L		XR 3 LOADEO WRONG	3A143100
09A8 0 30F6	00		/30F6	ERR IO	3 <b>A14</b> 3110
09A9 0 4400 OF		SIL	F005	CK LOCK ON ERROR	3A143120
09A8 0 70EF		OX	A6C6	LOOP	3A143130
09AC 0 7006	M	OX	A6C8	EXIT TO NEXT ROUTINE	3A143140
09AD 0 4400 OF	9 H6C6 8	SI L	F000	WRONG LOCATION	3A143150
09AF 0 30F7	0	C	/30F7	ERR ID	3A143160
0980 0 4400 OF	4 G6C6 B	SI L	F005	CK LOCK ON ERROR	3A143170
0982 0 70E8	H	0 X	A6C6	LOOP	3A143180
				******	3A143190 3A143200
0983 0 63FF		-	-1	SET XR 3 TO -1	3A143210
0984 0 C780 09	-		N6CF	LO CENGCEERR 30	3A143220
0986 0 F019	_	OR	N6C4	ACC NOW ZERO	, 3A143230
0987 0 4020 09		SC L		8R IF NOT ZERO	3A143240
0989 0 6818			N6C9	STORE XR 3 AT N6C9	3A143250
OPBA O COIA		D	N6C9	LO C%N6C9¤ ZERO WITH /FFFF	3A143260
0988 O FO1E		OR	N6CF	BRANCH ON ZERO	3A143270
09BC 0 4C18 09		SC L		XR 3-LOAGED WRONG	3A143280
098E 0 4400 OF		SI L	F000 /30F8	ERR IO	3A143290
09C0 0 30F8		SI L	F005	CK LOCK ON ERROR	3A143300
09C1 0 4400 OF		IOX	A6CB	LOOP	3A143310
09C3 0 70EF		IOX	A600	EXIT TO NEXT ROUTINE	3A143320
09C4 0 7017 09C5 0 4400 0F		SI L		WRONG LOCATION	3A143330
09C5 U 44UU UF		)C	/30F9	ERR 10	3A143340
09C8 0 4400 OF	-	SI L		CK LOCK ON ERROR	3A143350
09CA 0 70E8		OX	A6C8	LOOP	3A143360
0908 0 7010		10X	A600	EXIT TO NEXT ROUTINE	3A143370
09CC 0 09CC	N6CO D		N6CO		3A143380
0900 0 0900	N6C1 0	C	N6Cl		3A143390
09CE 0 09CE		C	N6C2		3A143400
09CF 0 09CF		C	N6C3		3A143410
0900 0 0900	N6C4 E	OC .	N6C4		3A143420
0901 0 0901	N6C5 D	ж	N6C5		3A143430
0902 0 0902		OC .	N6C6		3A143440
0903 0 0903	N6C7 E	DC DC	N6C7		3A143450
0904 0 0904	N6C8 (	DC	N6C 8		3A143460 3A143470
0905 0 0000		OC .	/0000		3A143480
0906 0 FFFC		DC	/FFFC		3A143490
0907 0 0004		DC	/0004		3A143500
0908 0 0001		DC	/0001		3A143510
0909 0 09D0		DC	N6C4		3A143520
090A O FFFF		O C	/FFFF	LOOP	3A143530
0908 0 7007	,	XOM	A6C8	LUUP	

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3A144220

OATE

EC NO.

						241/25/0
					;***********************	3A143540
CORE DATA OR	*LA-		++•			3A143560
ADDR INSTRUCTION	*BEL	ATION	FT	DPERANDS &	REMARKS IDESEQ# AT RIGHT	
************					******	
09DC 0 6500 09CD		LDX	Ll	N6C1	LD XR 1 WITH ADDRESS	3A143590 3A143600
OPDE O CIFF	*	LO	,	-1		3A143610
09DF 0 F0EC		EOR	•	N6CO		3A143620
09E0 0 4C1B 09E5			L		BRANCH ON ZERD	3A143630
09E2 0 4400 0F69		8·S I	L	F000	INDEXED LD INST. FAILED	3A14364D
09E4 0 315D		DC		/3150	ERR 1D	3A143650
09E5 0 4400 0FC4	H600	BSI MDX	L .	F005 A600	CK LOCK ON ERROR	3A14366D 3A143670
09E7 0 70F4	*****				******	3A1436B0
09E8 0 6600 09C0	A6D2	LDX		N6C1	LO XR 2 WITH ADDRESS	3A143690
• • • • • • • • • • • • • • • • • • • •	*				* OF N6C1	3A143700
09EA 0 C201		LD	2	1	LD CADE ADDRESS IN XE 1818	
09E8 0 F0E2		EOR		N6C2	ZERD IF CORRECT . BRANCH ON ZERO	3A143720 3A143730
09EC 0 4C18 09F1 09EE 0 4400 0F69			L		INDEXED LD INST. FAILED	3A143740
09F0 0 315E		DC	•	/315E	ERR ID	3A143750
09F1 0 4400 OFC4	H6D2		L	F005	CK LOCK ON ERROR	3A143760
09F3 0 70F4		MOX		A6D2	LDOP	3A143770
-054 - 4700 -0050					**************************************	3A143780 3A143790
09F4 0 6700 09CD 09F6 0 C300	A6D3	LOX LD	_	N6C1 0	LD CXDF ADD IN XR 3 & DP	
09F7 0 F0D5		EDR	•	N6C1		3A143810
09FB 0 4C1B 09F0		BSC	L		BRANCH ON ZERO	3A143820
09FA 0 4400 0F69		BSI	L		• 1-1	3A143B30
09FC 0 315F		DC		/315F	ERR ID	3A143840 3A143850
09FD 0 4400 0FC4 09FF 0 70F4	H6D3	BSI Mox	L	F005 A6D3	CK LOCK ON ERROR	3A143B60
0977 0 7074	****		***		******	3A143870
	****	*****	***	********	********	3A143B80
0A00 0 6102	A6D5	LDX	1	2	LD XR 1 WITH 62	3A143890
0A01 0 C0D6		LD		NPC 0		3A143900 3A143910
0A02 0 1101 0A03 0 F003		SLA E DR	1	1 N6CB	NOW A#/0004 NOW A#/0000	3A143920
0A04 0 4C1B 0A09			L			3A143930
0A06 0 4400 0F69		BSI	Ĺ		INDEXED SLA FAILED	3A143940
OAOB 0 3163		DC		/3163	ERR 10	3A143950
0A09 0 4400 OFC4	H6D5		L	F005	CK LOCK ON ERROR	3A143960
0A08 0 70F4		MDX		A605	LDDP	3A143970 3A143980
OACC 0 6202		LDX		2	LO /00004	3A143990
OAOD O COC9		LO	Ī	N6C8	NOW A#/0001	3A144000
DADE O 1A01		SRA	2	1	ZERO ACC	3A144010
OAOF O FOCB		EDR		N6C0		34144020
OA10 O 4C18 OA15 OA12 O 4400 OF69		BSC BSI	L	H606,&- F000	BRANCH ON ZERO INDEXED SRA FAILED	3A144030 3A144040
0A14 0 3164		DC	•	/3164	ERR 10	3A144050
0A15 0 4400 OFC4	H6D6		L	F005	CK LOCK DN ERROR	3A144060
0A17 0 70F4		MDX			LOOP	3A144070
		*****	***	******	*********	3A144080
	*			TEST	INDEXED BSC	3A144090 3A144100
	•			1531	THACKER DOC	3A144110
************		*****	***	*******	**************	
CORE DATA OR		OPER-				3A144130
					REMARKS 10&SEQ# AT RIGHT	
OA18 0 6301		***** LOX		·*********** }	**************************************	3A144150
0A19 0 COOE	AOFU	LD	-	N6F1	LD CTOF LABEL N6F1=	3A144170
OA1A 0 4F30 0A10		BSC	L3	N6F0	BR TD CEN6FOEXR 30	3A144180
OA1C 0 3000		WAIT			INCEXEC BSC FAILEO	3A144190
OA10 0 3000	N6F0			N/ E3	INDEXED BSC FAILED	3A144200
GA1E 0 F009		EOR		N6F1	CK FDR DISTROYED ACC	3A144210

02JAN66 01MAY66 15NOV66 15FEB6B 26AUG6B

415490 415490C 419643 420403 420403A

0A21 0 4600 0E69		BC1		FOOD	ACC DISTROYED	34144230
0A21 0 4400 0F69 0A23 0 3165		D.C.	_	/3165	ACC DISTROYEO ERR ID CK LDCK DN ERRDR LDOP EXIT TO NEXT ROUTINE	34144240
0A24 0 4400 DECA	HAED	BC 1		F005	CK I DCK DN EBBDB	34144250
0A23 0 3165 0A24 0 4400 0FC4 0A26 0 70F1	nor <b>o</b>	MUX	_	AAFO	LDOP	34144260
0A27 0 7001		MDX		A6F1	LDOP EXIT TO NEXT ROUTINE  ***********************************	3A144270
0A28 0 0A28	NAF1	טכ		NAFI	EAST 15 HEAT HOUSE	34144280
0,20 0 0,20	****	*****	***	*******	********	34144290
0429 0 6201 (	ASEL	LOX	2	1	ID XR 2 WITH ET	34144300
0A29 0 6201 ' 0A2A 0 4EBO 0A2D	70. 1	RSC	12	NAF2	RR TO NAFZEL INDIRECT	34144310
0A2C 0 7005		MDX	• •	H6F1	BSC FAILED	3A144320
0A2C 0 7005 0A2O 0 7004 0A2E 0 0A31	NAF2	MDX		H6F1	ASC FAILED	3A144330
DAZE O DA31		OC		NAF3		34144340
0A2F 0 7002		MDX		H6F1	BSC FAILEO	3A144350
0A30 0 7001		MDX		H6F1	BSC FAILEO	3A144360
0A30 0 7001 0A31 0 7003	N6F3	MDX		H6F2		3A144370
0A31 0 7003 0A32 0 4400 0F69	H6F1	BSI	L	F000	8SC DID NOT BRANCH	3A1443B0
0A34 0 3166		DC		/3166	ERR IO	3A144390
0A35 0 4400 0FC4	H6F2	BSI	L	F005	CK LOCK ON ERRDR	3A144400
0A35 0 4400 0FC4 0A37 0 70F1		MDX		A6F1	CK LOCK ON ERRDR Lodp	3A144410
	*****	*****	***1	********	*******	3A144420
	*					3A14443U
	*			TEST (	OF SUBTRACT OPERATION	3A1 44440
	*					3A144450
	****	*****	***	********	*********	3A144460
0A38 0 2000	A700	LDS		0	**************************************	3A144470
0A39 0 C066 0A3A 0 9066		LD		N700	SET C AND UP UPP LO /0000 S /0001 A NDW /FFF STDRE CARRY INO. TO N702 ZERO ACC IF CDRRECT BRANCH DN ZERO 0000 MINUS 0001 FAILE0 ERR IO CK LDCK ON ERROR	3 <b>A144</b> 480
DA 3A 0 9066		\$		N701	S /0001 A NDW /FFFF	3A144490
0A38 0 2B66		STS		N702	STDRE CARRY INO. TO N702	3A144500
0A3C 0 F066		EDR		N703	ZERO ACC IF CDRRECT	3 <b>A144510</b>
0A38 0 2866 0A3C 0 F066 0A3D 0 4C18 0A42		BSC	L	G700+ £−	BRANCH DN ZERO	3A144520
0A3F 0 4400 0F69		BSI	L	F000	0000 MINUS 0001 FAILEO	3A144530
0A41 0 30FA		DC		/30FA	ERR IO	3A144540
0A42 0 4400 0F9B	G700	BSI	L	F OOE	CK LDCK ON ERROR	3A144550
0A44 0 70F3		MOX		A700	LOOP	3A144560
0A44 0 70F3 0A45 0 C05C 0A46 0 F05D 0A47 0 4C18 0A4C 0A49 0 4400 0F69		LO		N7 02	CK LOCK ON ERROR LOOP LO CARRY INDICATION ZERD IF CORRECT BRANCH ON ZERD CARRY NOT ON ERR ID	3A144570
0A46 0 F05D		EOR		N704	ZFRD IF CORRECT BRANCH ON ZERD CARRY NDT ON ERR ID CK LOCK DN ERRDR LOOP	3A1445B0
0A47 0 4C18 0A4C		BSC	L	G702+&-	BRANCH ON ZERD	3A144590
0A49 0 4400 0F69		BSI	L	F000	CARRY NOT UN	3A1446UU
0A4B 0 30FB 0A4C 0 4400 0FC4		DC		/30F8	ERR 1D CK LOCK DN ERRDR	3A14461U
	6702	D 2 I	L	FUUD	CK FOUR DM ERVON	34144020
0A4E 0 70E9		MUX		A / 00	LOOP	
0.45 0 2000	****	****	***		LOOP ***********************************	3A144640 3A144650
0A4F 0 2000	A / U4	FD2		0 N700	JEI C AND DE OFFE	3A144660
0A50 0 CO4F		LU		H100	20 70000	2424470
0A51 0 9051		S		N703	5 /FFFF	049771VC
0A52 0 284F 0A53 0 F04D		212		N702	JERO HITH (DOOL	34144600
0A53 U FU4U		PCC		6704 5-	DDANCH ON 7500	24144700
0A54 0 4C18 0A59 0A56 0 440u 0F69		BCI	Ļ	5707,67 E000	S /FFFF STDRE CARRY DN CDNDITION ZERO WITH /0001 BRANCH ON ZERO 0000 MINUS FFFF FAILEO ERR IO CK LOCK ON ERROR	34144710
0A5B 0 30FC		UC 621	_	/30FC	FRR TO	34144720
0A59 0 4400 0F98	C704	DC 1		FOOE	CK LUCK UN EDBUB	3A144730
0A5B 0 70F3					LODE	34144740
0A5C 0 C045		10		A704 N702	LO CARRY CONO FROM N702	3A144750
		E OR		N704		3A144760
0A50 0 F046		LUN			BRANCH ON ZERO	3A144770
DAKE D ACIA DAKE				(a / 1)(a a ). =		
0A5E 0 4C18 0A63		BSC				
0A60 0 4400 0F69		BSC BSI		F000	CARRY NOT SET	3A144780
0A60 0 4400 0F69 0A62 0 30F0	6704	BSC BSI OC	L	F000 /30F0	CARRY NOT SET ERR 10	
0A60 0 4400 0F69 0A62 0 30F0 0A63 0 4400 0FC4	G7 <b>0</b> 6	BSC BSI OC BSI	L	F000 /30F0 F005	CARRY NOT SET ERR IO CK LOCK ON ERROR	3A144780 3A144790
0A60 0 4400 0F69 0A62 0 30F0		BSC BSI OC BSI MDX	L L	F000 /30F0 F005 A704	CARRY NOT SET ERR 10 CK LOCK ON ERROR LODP	3A144780 3A144790 3A144800 3A144810
0A60 0 4400 0F69 0A62 0 30F0 0A63 0 4400 0FC4 0A65 0 70E9	****	BSC BSI OC BSI MDX	L L ***	F000 /30F0 F005 A704	CARRY NOT SET ERR 10 CK LOCK ON ERROR LODP	3A144780 3A144790 3A144800 3A144810 3A144820
0A60 0 4400 0F69 0A62 0 30F0 0A63 0 4400 0FC4 0A65 0 70E9	*****	BSC BSI OC BSI MDX *****	L L ***	F000 /30F0 F005 A704	CARRY NOT SET ERR 10 CK LOCK ON ERROR LODP	3A144780 3A144790 3A144800 3A144810 3A144820
0A60 0 4400 0F69 0A62 0 30F0 0A63 0 4400 0FC4 0A65 0 70E9 ************************************	***** *****	BSC BSI OC BSI MDX *****	L L ***	F000 /30F0 F005 A704	CARRY NOT SET  ERR IO  CK LOCK ON ERROR  LODP  ***********************************	3A144780 3A144790 3A144800 3A144810 3A144820 3A144830 3A144840
0A60 0 4400 0F69 0A62 0 30F0 0A63 0 4400 0FC4 0A65 0 70E9 ************************************	***** ***** *LA- *BEL	BSC BSI OC BSI MDX ***** OPER- ATION	L L *** FT	F000 /30F0 F005 A704 ************************************	CARRY NOT SET ERR 10 CK LOCK ON ERROR LODP	3A144780 3A144790 3A144800 3A144810 3A144820 3A144830 3A144840 3A144850
0A60 0 4400 0F69 0A62 0 30F0 0A63 0 4400 0FC4 0A65 0 70E9 ************************************	***** ***** *LA- *BEL ****	BSC BSI OC BSI MDX ***** OPER- ATION	L L *** FT	F000 /30F0 F005 A704 ************************************	CARRY NOT SET ERR IO CK LOCK ON ERROR LODP ************************************	3A144780 3A144790 3A144800 3A144810 3A144820 3A144830 3A144840 3A144850
0A60 0 4400 0F69 0A62 0 30F0 0A63 0 4400 0FC4 0A65 0 70E9 ************************************	***** ***** *LA- *BEL	BSC BSI OC BSI MDX ***** OPER- ATION	L L *** FT	F000 /30F0 F005 A704 ************************************	CARRY NOT SET ERR IO CK LOCK ON ERROR LODP ************************************	3A144780 3A144790 3A144800 3A144810 3A144820 3A144830 3A144840 3A144860
0A60 0 4400 0F69 0A62 0 30F0 0A63 0 4400 0FC4 0A65 0 70E9 ************************************	***** ***** *LA- *BEL ****	BSC BSI OC BSI MDX ***** OPER- ATION *****	L L *** FT	F000 /30F0 F005 A704 ************************************	CARRY NOT SET ERR IO CK LOCK ON ERROR LODP ************************************	3A144780 3A144790 3A144800 3A144810 3A144820 3A144830 3A144840 3A144850 3A144850 3A144860

BSC L H6FO, E- BRANCH ON ZERO

OATE 02JAN66 01MAY66 15NOV66 15FE86B 26AUG6B EC NO. 415490 415490C 419643 420403 420403A

IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

CPU FUNCTION TEST

OA1F 0 4C1B 0A24

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PAGE

CPU FUNCTION TEST

OATE

EC NO.

OABO									
AGE   CALE   DATO   BSC   C GTOB-1-   SOUN INIVE DOUT FAILED   SALE   CALE	0A69 0	2838			STS		N702		3A144900
ASSI	046A 0	F03C			EOR		N707		3A144910
0ASF 0 30FE 0 0C	0A68 0	4C18	0A70			L			3A144920
0 4-40 0 6-98			0F69			L			3A144930
MOX   A708   LOD   MOX   A708   LOD   A708   LOD   A708   LOD   A709   LOD   STORE CARRY CONOITION   SALIVARIAN   GOZE   LOD   M702   LOD   STORE CARRY CONOITION   SALIVARIAN   GOZE   LOD   M702   LOD   STORE CARRY CONOITION   SALIVARIAN   GOZE   LOD   M702   LOD   M704   M707									3A144940
0A73 0 COZE			0F98	G70B		L			3A144950
0.71 0 F02C					-				3A144960
SEC   C   C70A   E   SRANCH ON ZERO   3A1-									3A144970
SST   FOOD   OVERFLOM NOT SET   3A1-									3A1449B0 3A144990
0A7 0 30FF						_			3A145000
0A76 0 4400 0FC4 G70A 851 L F005 CK LÖCK ON ERROR 3A1- 0A77 0 2000 A70C LOS 0 SET C ANO OF OFF 3A1- 0A77 0 2000 A70C LOS 0 SET C ANO OF OFF 3A1- 0A77 0 9025 S N705 S /8000 0A76 0 9025 S N705 S /8000 0A80 0 2821 STS N702 STORE C E OF CONDITION 3A1- 0A81 0 F023 BEOR N705 S /8000 0A82 0 4C18 0A87 BSC L G70C,6- BRANCH ON ZERO 3A1- 0A84 0 4400 0F69 BSI L F000 0000 HINUS 8000 FAILED 3A1- 0A86 0 3100 C /3100 ERR 10 0A87 0 4400 0F98 G70C BSI L F00E CK LOCK ON ERROR 3A1- 0A89 0 70F3 N0X A70C LOP 3A1- 0A88 0 F01A EDR N706 ZERO ACC IF CORRECT 3A1- 0A86 0 3100 C /3100 ERR 10 0A86 0 A100 A100 A100 A100 A100 A100 A100 A			01-69			L			3A145010
0A7C 0 70E9    MOX   A708   LOOP   LOOP   A706   LOOP			0564	C704	-				3A145020
10   10   10   10   10   10   10   10			UFC	GIUA		L			3A145030
0ATO 0 2000 A70C LOS O SET C ANO OF OFF 3AL- 0ATE 0 C021 LD M700 LO /0000 3AL- 0ATE 0 P025 S N705 S /8000 3AL- 0AB0 0 2821 STS N705 S SR000 3AL- 0AB0 0 2821 STS N705 S SR000 3AL- 0AB0 0 2821 STS N705 S SR000 3AL- 0AB0 0 2821 STS N705 S STOR C & OF CONDITION 3AL- 0AB1 0 F023 BER N705 ERRANCH ON ZERO 3AL- 0AB2 0 4C18 0AB7 BSC L G70C,6- BRANCH ON ZERO 3AL- 0AB6 0 3100 OC /3100 ERR 10 SR00 FAILED 3AL- 0AB6 0 3100 C /3100 ERR 10 SR00 FAILED 3AL- 0AB9 0 70F3 MOX A70C LOOP 3AL- 0AB9 0 70F3 MOX A70C LOOP 3AL- 0AB8 0 F01A EDR N706 ZERO ACC IF CORRECT 3AL- 0AB6 0 C013 LO N702 LO CON OF CCOF 3AL- 0AB6 0 C013 LO N702 LO CON OF CCOF 3AL- 0AB6 0 E011 ANO N701 ANO IN /0001 3AL- 0AB6 0 E013 LO N702 LO CON OF C & OF 3AL- 0AB6 0 E013 LO N702 LO CON OF C & OF 3AL- 0AB6 0 E013 LO N702 LO CON OF C & OF 3AL- 0AB6 0 E013 LO N702 LO CON OF C & OF 3AL- 0AB6 0 E013 LO N702 LO CON OF C & OF 3AL- 0AB6 0 E013 LO N702 LO CON OF C & OF 3AL- 0AB6 0 E013 LO N702 LO CON OF C & OF 3AL- 0AB6 0 E013 LO N702 LO CON OF C & OF 3AL- 0AB6 0 E013 LO N702 LO CON OF C & OF 3AL- 0AB6 0 E014 ANO N701 ANO IN /0001 ANO IN /0001 0AB6 0 E015 ANO C & OF SET L FOOD C ARRIVED NOT ON 3AL- 0A99 0 4400 OF69 BSI L FOOD C ARRY NOT DN 3AL- 0A99 0 A400 OF64 BSI L FOOD C ARRY NOT DN 3AL- 0A99 0 A400 OF64 G70E BSI L FOOD C ARRY NOT DN 3AL- 0A99 0 A400 OF64 G70E BSI L FOOD C ARRY NOT DN 3AL- 0A99 0 A400 OF64 G70E BSI L FOOD C ARRY NOT DN 3AL- 0A95 0 700F MOX A70C LOOP SITT TO MEXT ROUTINE 3AL- 0A96 0 700E MOX A70C LOOP SITT TO NEXT ROUTINE 3AL- 0A96 0 700E MOX A70C LOOP SITT TO NEXT ROUTINE 3AL- 0A96 0 700E MOX A70C LOOP SITT TO NEXT ROUTINE 3AL- 0A97 0 705F N703 OC /7FFF N70	UM IL U	1069		****		***			3A145040
0A7E 0 0025 S N700 L0 70000 3A1- 0A7E 0 9025 S N705 S 78000 3A1- 0A80 0 2821 STS N702 STORE C 6 OF CONDITION 3A1- 0A81 0 F023 EOR N705 ZERO ACC 1F CORRECT 3A1- 0A81 0 F023 BSC L G70C,6- BRANCH ON ZERO 3A1- 0A84 0 4400 0F69 BSI L F000 0000 MINUS B000 FAILED 3A1- 0A86 0 3100 C /3100 ERR 10 3A1- 0A87 0 4400 0F98 G70C BSI L F00E CK LOCK ON ERROR 3A1- 0A89 0 7063 BSC L G70E,6- BRANCH ON ZERO 3A1- 0A88 0 F01A EOR N706 ZERO ACC 1F CORRECT 3A1- 0A88 0 F01A EOR N706 ZERO ACC 1F CORRECT 3A1- 0A88 0 F01A EOR N706 ZERO ACC 1F CORRECT 3A1- 0A88 0 F01A EOR N706 ZERO ACC 1F CORRECT 3A1- 0A88 0 F01A EOR N706 ZERO ACC 1F CORRECT 3A1- 0A98 0 7065 EOI1 AND N701 AND IN 7001 3A1- 0A99 0 4C20 0A99 BSC L J70E,2 BRANCH ON ZERO 3A1- 0A99 0 4C20 0A99 BSC L J70E,2 BR 1F NOT ZERO 3A1- 0A99 0 4400 0F69 BSI L F000 OWERFLOM NOT ON 3A1- 0A99 0 700F MOX A70C LOOP 0A 3A1- 0A99 0 700F MOX A70C LOOP 0A 3A1- 0A99 0 700F MOX A70C LOOP 0A 3A1- 0A99 0 700F MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A99 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A99 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A99 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A99 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A99 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A99 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A99 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A99 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A99 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A99 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A99 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A99 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A90 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A90 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A90 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A90 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A90 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A90 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A90 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A90 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A90 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A90 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A90 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1-	0470 0	2000							3A145050
0A7F 0 9075 0A80 0 2821 0A80 0 3100 0C 73100 0C 0C 0A70 0 0A70				~.00			-		3A145060
0880 0 2821									3A145070
CABLE   0 FO23									3A145080
0AB2 0 4C18 0AB7								ZERO ACC 1F CORRECT	3A145090
0A86 0 3100 0F98 G70C BSI L FOOE CK LOCK ON ERROR 3A1- 0A87 0 4400 0F98 G70C BSI L FOOE CK LOCK ON ERROR 3A1- 0A88 0 C017 LO N702 LO CON OF CEOF 3A1- 0A88 0 F01A EDR N706 ZERO ACC IF CORRECT 3A1- 0A86 0 4618 0A9C BSC L G70F, E- BRANCH ON ZERO 3A1- 0A86 0 C013 LO N702 LO CON OF CEOF 3A1- 0A86 0 C013 LO N702 LO CON OF CE OF 3A1- 0A86 0 C013 LO N702 LO CON OF CE OF 3A1- 0A96 0 C013 LO N702 LO CON OF CE OF 3A1- 0A96 0 C011 ANO N701 ANO IN /0001 3A1- 0A97 0 AC20 0A99 BSC L J70F, Z BR IF NOT ZERO 3A1- 0A92 0 4400 0F69 BSI L FOOO OVERFLON NOT ON 3A1- 0A95 0 4400 0FC4 BSI L FOO5 CK LOCK ON ERROR 3A1- 0A95 0 4400 0FC4 BSI L FOO5 CK LOCK ON ERROR 3A1- 0A98 0 700F MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A98 0 3102 OC /3102 ERR ID 3A1- 0A99 0 3400 0FC4 G70E BSI L FOO5 CK LOCK ON ERROR 3A1- 0A96 0 4400 0FC4 G70E BSI L FOO5 CK LOCK ON ERROR 3A1- 0A96 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A96 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A97 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A96 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A97 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A97 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A97 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A97 0 700E MOX A740 EXIT TO NEXT ROUTINE 3A1- 0A98 0 3000 N700 OC /0000 3A1- 0A40 0 0000 N705 OC /0000 3A1- 0A40 0 0000 N706 OC /0000 A0 FFFFF OW/FFFF 3A1- 0A48 0 0000 N706 OC /0000 A0 FFFFF OW/FFFF 3A1- 0A48 0 0000 N706 OC /0000 A0 FFFFF OW/FFFF 3A1- 0A48 0 0000 N706 OC /0000 A0 FFFFF OW/FFFF 3A1- 0A48 0 0000 N706 OC /0000 A0 FFFFF OW/FFFF 3A1-			OAB7		BSC	L	G70C,&-	BRANCH ON ZERO	3A145100
0	0A84 0	4400	0F69		BSI	L	F000	0000 MINUS BOOD FAILED	3A145110
0AB9 0 70F3	0A86 0	3100			OC		/3100	ERR 10	3A145120
0.88	0 78AO	4400	0F98	G70C	BS1	L	FOOE	CK LOCK ON ERROR	3A145130
0.88B 0 FOIA	0A89 0	70F3			MOX		A70C		3A145140
0.88C 0 4C18 0.49C 8SC L G70E+E- 8RANCH ON ZERO 3A1- 0.88E 0 C013 LO N702 LO CON OF C & DF 3A1- 0.88F 0 E011 ANO N701 ANO IN /0001 3A1- 0.890 0 4C20 0.499 BSC L J70E+Z BR 1F NOT ZERO 3A1- 0.492 0 4400 0F69 BSI L F000 OVERFLON NOT ON 3A1- 0.495 0 4400 0FC4 BSI L F005 CK LOCK ON ERROR 3A1- 0.495 0 4400 0FC4 BSI L F005 CK LOCK ON ERROR 3A1- 0.497 0 70E5 MOX A70C LOOP 0.498 0 700F MOX A740 EXIT TO NEXT ROUTINE 3A1- 0.499 0 4400 0FC4 G70E BSI L F005 CK LOCK ON ERROR 3A1- 0.496 0 700E MOX A70C LOOP 3A1- 0.496 0 700E MOX A70C LOOP 3A1- 0.496 0 700E MOX A70C LOOP 3A1- 0.496 0 700B MOX A70C LOOP 3A1- 0.497 0 700B MOX A70C LOOP 3A1- 0.496 0 700B MOX A70C EXIT TO NEXT ROUTINE 3A1- 0.496 0 700B MOX A70C LOOP 3A1- 0.497 0 700B MOX A70C EXIT TO NEXT ROUTINE 3A1- 0.496 0 700B MOX A70C LOOP 3A1- 0.497 0 700B MOX A70C EXIT TO NEXT ROUTINE 3A1- 0.496 0 700B MOX A70C LOOP 3A1- 0.497 0 700B MOX A70C LOOP 3A1- 0.497 0 700B MOX A70C EXIT TO NEXT ROUTINE 3A1- 0.498 0 3000 N700 DC /0000 STORAGE 3A1- 0.498 0 0000 N700 DC /0000 STORAGE 3A1- 0.498 0 0000 N705 DC /8000 A31- 0.499 0 COO 0.86E L 0 D L N742 L D A#/FFFF Q#/FFFF A31- 0.499 0 CC00 0.86E L 0 D L N744 A /0000 O 0.000 0.408 0 0.860 0.870 AD L N744 A /0000 O 0.000 0.408 0 0.400 0.669 BSI L F000 A0 FFFFE Q#/FFFF A31- 0.499 0 CC00 0.86E EDR L N740 STORE CON. DF C & 0F 0.490 0 C /3103 ERR 10 0.490 0 C /3100 ERR 10	OABA O	CO17			LO		N702		3A145150
0 ABE 0 C013	OABB O	F01A			E OR		N706	ZERO ACC IF CORRECT	3A145160
0A8F 0 E011			OA9C			L			3A145170
0A90 0 4C20 0A99									3A145180
0A92 0 4400 0F69									3A145190
0A94 0 3101 0C /3101 ERR 10 3A1 0A95 0 4400 0FC4 8SI L F005 CK LOCK ON ERROR 3A1 0A97 0 70E5 MOX A70C LOOP 3A1 0A98 0 70OF MOX A740 EXIT TO NEXT ROUTINE 3A1 0A99 0 4400 0F69 J70E BS1 L F000 CARRY NOT ON 3A1 0A98 0 3102 0C /3102 ERR 1D 3A1 0A96 0 3102 0C /3102 ERR 1D 3A1 0A96 0 70OE MOX A740 EXIT TO NEXT ROUTINE 3A1 0A96 0 70OE MOX A740 EXIT TO NEXT ROUTINE 3A1 0A96 0 70OB MOX A740 EXIT TO NEXT ROUTINE 3A1 0A97 0 7008 MOX A740 EXIT TO NEXT ROUTINE 3A1 0A96 0 7008 MOX A740 EXIT TO NEXT ROUTINE 3A1 0A97 0 7008 MOX A740 EXIT TO NEXT ROUTINE 3A1 0A40 0 0000 N700 DC /0000 STORAGE 3A1 0A42 0 0000 N702 DC /0000 STORAGE 3A1 0A43 0 FFFF N703 DC /FFFF 3A1 0A44 0 0002 N704 DC /0002 3A1 0A45 0 8000 N705 DC /8000 3A1 0A46 0 0003 N706 OC /0003 3A1 0A46 0 0003 N706 OC /0003 3A1 0A47 0 7FFF N707 DC /7FFF 3A1 0A48 0 2000 A740 LOS O SET CANO 0F OFF 3A1 0A99 0 CC00 086E LOO L N742 LO AFFFFF WFFFF 3A1 0A48 0 2000 A740 LOS O SET CANO 0F OFF 3A1 0A48 0 8C00 0870 A0 L N744 A /0000 /0000 3A1 0A48 0 8C00 0870 A0 L N744 A /0000 /0000 3A1 0A48 0 8C00 0870 A0 L N744 A /0000 /0000 3A1 0A48 0 8C00 0870 A0 L N744 A /0000 /0000 3A1 0A48 0 4400 0F69 BSI L F000 A0 FFFFG0000 A FAILEO 3A1 0A48 0 4400 0F69 BSI L F000 A0 FFFFG0000 A FAILEO 3A1 0A48 0 4400 0F69 BSI L F000 A0 FFFFG0000 A FAILEO 3A1 0A48 0 4400 0F69 BSI L F000 CK LOCK ON ERROR									3A145200
0A95 0 4400 0FC4			0F69			L		-	3A145210
0A97 0 70E5								_	3A145220 3A145230
0A98 0 700F			OFC4			L			3A145240
0A99 0 4400 0F69									3A145250
0A98 0 3102			0540	1706					3A145260
0A9C 0 4400 0FC4 G70E BS1 L F005 CK LOCK ON ERROR 3A1 0A9E 0 700E MOX A70C LOOP 3A1 0A9F 0 7008 MOX A740 EXIT TO NEXT ROUTINE 3A1 0A0 0 0000 N700 DC /0000 3A1 0A01 0 0001 N701 OC /0001 3A1 0A02 0 0000 N702 OC /0000 STORAGE 3A1 0A04 0 0002 N704 DC /0002 3A1 0A05 0 8000 N705 OC /8000 3A1 0A06 0 0003 N706 OC /0003 3A1 0A07 0 7FFF N707 OC /7FFF 3A1  ***********************************			0103	3105		_			3A145270
0A9E 0 700E			OEC4	G70E				-	3A145280
0A9F 0 7008			01-64	OIUL					3A145290
0AAO 0 0000 N700 DC									3A145300
0AA1 0 0001 N701 0C				N700					3A145310
0AA2 0 0000       N702 0C       /0000       STORAGE       3A1         0AA3 0 FFFF       N703 0C       /FFFF       3A1         0AA4 0 0002       N704 DC       /0002       3A1         0AA5 0 8000       N705 0C       /8000       3A1         0AA6 0 0003       N706 0C       /0003       3A1         0AA7 0 7FFF       N707 0C       /7FFF       3A1         *       TEST 0F A00 DOUBLE       3A1         ************************************									3A145320
0AA3 0 FFFF N703 0C								STORAGE	3A145330
0AA5 0 8000 N705 0C /8000 3A1 0AA6 0 0003 N706 0C /0003 3A1 0AA7 0 7FFF N707 0C /7FFF 3A1									3A145340
0AA5 0 8000 N705 0C /8000 3A1 0AA6 0 0003 N706 0C /0003 3A1 0AA7 0 7FFF N707 0C /7FFF 3A1	0AA4 0	0002		N704	DC		/0002		3A145350
0AA7 0 7FFF N707 0C /7FFF 3A1  * TEST OF AOO DOUBLE 3A1  * TEST OF AOO DOUBLE 3A1  ***********************************				N705					3A145360
# TEST OF AOO DOUBLE 3A1  * TEST OF AOO DOUBLE 3A1  ***********************************	0AA6 0	0003		N706	OC		/0003		3A145370
# TEST OF AOO DOUBLE 3A1  ***********************************	0AA7 0	7FFF		N707	OC		/7FFF		3A1453B0
######################################				*					3A145390
**************************************				*			TEST (	OF AOO DOUBLE	3A145400
**************************************				*					3A145410
CORE ADDRESS OF STATE OF CORE OF C				****	****	***	*******		3A145420
AOOR INSTRUCTION *BEL ATION FT OPERANOS & REMARKS 10&SEQ# AT RIGHT 3A1 ************************************	******	*****	******	*****	****	***	*******	**************	3A145430
3A1	CORE	OATA	A OR	*LA-	OP ER-				3A145440
0AA8 0 2000         A740 LOS         0         SET C ANO OF OFF         3A1           0AA9 0 CC00 086E         LOO L N742 LO A#/FFFF Q#/FFFF         3A1           0AAB 0 8C00 0870         AO L N744 A /0000 /0000 3A1           0AAD 0 2C00 0860         STS L N740 STORE CON. OF C & OF 3A1           0AAF 0 F400 086E         EOR L N742 3A1           0AB1 0 4C1B 0A86 8SC L G740, ε- 8RANCH ON ZERO 3A1           0A83 0 4400 0F69 8SI L F000 A0 FFFF&0000 A FAILED 3A1           0A85 0 3103 0C /3103 ERR 10 3A1           0A86 0 4400 0F98 G740 8SI L F00E CK LOCK ON ERROR 3A1									
0AA9 0 CC00 086E       LOO L N742       LO A#/FFFF Q#/FFFF       3A1         0AAB 0 8C00 0870       AO L N744       A /0000 /0000       3A1         0AAD 0 2C00 0860       STS L N740       STORE CON. OF C & OF       3A1         0AAF 0 F400 086E       EOR L N742       3A1         0AB1 0 4C1B 0A86       BSC L G740, E-       BRANCH ON ZERO       3A1         0AB3 0 4400 0F69       BSI L F000       AO FFFF&00000 A FAILEO       3A1         0AB5 0 3103       OC /3103       ERR 10       3A1         0AB6 0 4400 0F98       G740 8SI L F00E       CK LOCK ON ERROR       3A1						***			
0AAB     0 8C00 0870     AO     L     N744     A     /0000 /0000     3A1       0AAD     0 2C00 0860     STS     L     N740     STORE CON. OF C & OF     3A1       0AAF     0 F400 086E     EOR     L     N742     3A1       0AB1     0 4C1B 0A86     BSC     L     G740 ε-     8RANCH ON ZERO     3A1       0AB3     0 4400 0F69     BS1     L     F000     AO FFFF&0000 A FAILEO     3A1       0AB5     0 3103     OC     /3103     ERR 10     3A1       0AB6     0 4400 0F98     G740     8S1     L     F00E     CK LOCK ON ERROR     3A1				A740					3A145470
OAAO O 2COO 0860	_							· · · · · · · · · · · · · · · · ·	3A145480
0AAF 0 F400 086E       EOR L N742       3A1         0A81 0 4C1B 0A86       8SC L G740,6-       8RANCH ON ZERO       3A1         0A83 0 4400 0F69       BS1 L F000       A0 FFFF60000 A FAILED       3A1         0A85 0 3103       OC /3103       ERR 10       3A1         0A86 0 4400 0F98       G740 8S1 L F00E       CK LOCK ON ERROR       3A1									3A145490
0A81 0 4C1B 0A86     8SC L G740,6-     8RANCH ON ZERO     3A1       0A83 0 4400 0F69     BS1 L F000     A0 FFFF60000 A FAILED     3A1       0A85 0 3103     OC /3103     ERR 10     3A1       0A86 0 4400 0F98     G740 8S1 L F00E     CK LOCK ON ERROR     3A1						_	–	STUKE COM. UP C & OF	3A145500
0A83 0 4400 0F69 BS1 L F000 A0 FFFFE0000 A FAILED 3A1 0A85 0 3103 OC /3103 ERR 10 3A1 0A86 0 4400 0F98 G740 8S1 L F00E CK LOCK ON ERROR 3A1			_					BRANCH ON 7500	3A145510
0A85 0 3103 OC /3103 ERR 10 3A1 0A86 0 4400 0F98 G740 8SI L F00E CK LOCK ON ERROR 3A1									3A145520
0A86 0 4400 0F98			UF 69			L			3A145530
			O E O e	C740					3A145540
- UMOO O FOLE TO A RETU LOUP SAL			UF 70	3140		L			3A145550 3A145560
								LVOP	3A145570
ONLY O LOOP NIL 19	UNU 7 U	1000			N.E				JET47710

02JAN66 01MAY66 15NOV66 15FE868 26AUG68

415490 415490C 419643 420403 420403A

OABA	0	F400	OB6E		E OR	L	N742		3A145580
OABC	0	4C18	OACI		BSC	L	G742,5- F000	BR ON ZERO	3A145590
OABE	0	4400	0F69		BSI	L	F000	AO FFFFE0000 Q FAILEO	3A145600
OACO	0	3104			OC		/3104	ERR 10	3A145610
			0F98	G742		L		CK LOCK ON ERROR	3A145620
OAC 3					MOX		A740	LOOP	3A145630
			0860		LO	L	N740	CONDITION OF C & OF BRANCH ON ZERO BR IF NOT EVEN CARRY ON ERR 10	3A145640
-460	^	1001	0A04		B2C	Ļ	6/44.8-	BRANCH UN ZERU	3A145650
DACO	0	4604	0A01 0F69		8\$I		FA00	OK IF NUI EVEN	3A145660 3A145670 3A145680
OACC	0	2105	UFBY		0C 921	L	/3105	ERR 10	3A145680
			OFC4		BSI		F005	CK LOCK ON ERROR LOOP . OVFLO ON ERR 10	34145690
OACF			0.04		MOX	•	A740	I DOD	34145700
0400					MOX		G744		34145710
OAD1	ō	4400	0F69	H744	BSI	L	F000	OVFLO ON	3A145710 3A145720
0A03	0	3106			OC		/3106	ERR 10 CK LOCK ON ERROR	3A145730
0A04	0	4400	OFC4	G744			F0U5	CK LOCK ON ERROR	3A145740
					MOX		A740	LOOP	3A145750
				****	*****	***	*********	LOOP  SET C AND OF OFF  LO A#/0000 Q#/0001  A /FFFF /FFF  STORE CONO OF C AND OF  BRANCH ON ZERO  AO 0000EFFFF A FAILEO  ERR 10  CK LOCK ON ERROR	3A145760
0A07	0	2000		A746	LOS		0	SET C AND OF OFF	3A145770
80A0	0	CCOO	0872		L00	L	N746	LO A#/0000 Q#/0001	3A145780
OAOA	0	8000	OB6E		OA	L	N742	A /FFFF /FFFF	3A145790
OADC	0	2000	086D		STS	L	N740	STORE CONO OF C AND OF	3A145800
OAOE	0	4C18	OAE3		82C	L	G746+E-	BRANCH ON ZERO	3A145B10
OAEO	0	4400	0F69		BSI	L	F000	AO OOOOEFFFF A FAILEO	3A145820
UAEZ	Ō	3107	0500	67/4	06		/310/	EKK 10	3A14503U
0-63	•	4400	0.598	6146	0.01	_		CK EOCK ON EKKOK	3A145B50
OAE5 OAE6					MOX		A746 16	LOOP	34145860
0457	•	4 5 1 0	OAEC		ASC		6748-5-	INTERCHANGE A AND Q BRANCH ON ZERO	34145870
DAEG	ň	4400	0F69		RSI		F000	AO ODOLEFFFF Q FAILEO	34145880
OAEB	ň	310B	0.07		0C		/3108	FRR 10	3A145B90
			OF98					<del>-</del>	3A145900
OAEE	ō	70E8		•	MOX	_	A744	1000	3A145910
OAEF	Ō	C400	0860		LO	L	N740	LO CONO OF C ANO OF CHECK FOR CARRY	3A145920
DAEL	Λ	ENR2			FΛR		N704	CHECK FOR CARRY	3A145930
OAF2	0	4C18	0800		BSC	L	G74A, &-	ZERO# C ANO OF OK CHECK FOR OVERFLOW \$8150	3A145940
OAF4	0	4004	0AF0 0F69		8 S C	L	H74A,E	CHECK FOR OVERFLOW \$8150	3A145950
OAF6	0	4400	0F69		B \$ 1	L	F000	EARRY NOT UN	3A14396U
					OC		/3109	ERR 10	3A145970
OAF9	0	4400	OFC4		BSI	L	/3109 F005 A746	CK LOCK ON ERROR	3A145980
OAF8	0	7008			MOX		A746	LOOP	3A145990
					HUA		GITA		3A146000
			0F69	H74A		L	F000	OVFLO ON	3A146010
		310A			0C		/310A	ERR 10	3A146020
0800	0	4400	OFC4	G74A	BSI	L	F005	CK LUCK UN EKRUK	34144040
0802	U	7004		****	#UX		A/40	CK LOCK ON ERROR LOOP	34146050
****					*****		*******	*******	34146060
CORE			A OR						3A146070
AOOR		INS	RUCTION	*BEL	ATION	FT	OPERANOS &	REMARKS 10&SEQ# AT RIGHT	
****	***	****	*******	*****	****	***	********	************	3A146090
		2000		A74C	LOS		0		3A146100
0804				-	L00		N742	LO A#/FFFF Q#/FFFF	3A146110
0805	0	<b>B868</b>			AO		N742	A /FFFF /FFFF	3A146120
0806	0	2866			STS		N740	STORE C AND OF CONO	3A146130
0807	0	F066			EOR		N742	ZERO WITH /FFFF	3A146140
			0800		BSC	L	G74C,&-	BRANCH ON ZERO	3A146150
		4400	0F69		851	L	F000	AO FFFFEFFF ACC FAILED	3A146160
080C					OC	_	/3108	ERR 10	3A146170
		4400	0F98	G74C	BSI	L	FOOE	CK LOCK ON ERROR	3A146180 3A146190
080F		_			MOX		A74C	LOOP	3A146200
		1800			RTE		16	INTERCHANGE A AND Q ZERO WITH /FFFF	3A146210
0B11			0817		EOR		N74A G74E.&-	BRANCH ON ZERO	3A146220
		4400	0B17		BSC	L	F000	AO FFFFEFFF Q FAILEO	3A146230
0B14			UFOT		BSI OC	L	/310C	ERR 10	3A146240
			0F98	G74E		L	FOOE	CK LOCK ON ERROR	3A146250
5511	•	. 700	J. 75	J. 7L		-			

02JAN66 01MAY66 15NOV66 15FEB68 26AUG68

EC NO. 415490 415490C 419643 420403 420403A

DATE

				•					
0819					MOX			LOOP	3A146260
081A					LO.		N740	CONDITION OF C AND OF	3A146270 3A1462B0
0818	-	4C18	08.24		EDR 8SC		N74B J740,&-	CHECK FOR OVERFLOW BRANCH ON ZERO	3A146290
	_	4C04			8SC	L	K740,E		3A146300
			0F69		851	Ĺ	F000		3A146310
0B22			0.07		OC.	-	/310E		3A146320
		4400	OFC4		8S I	L	F005	CK LOCK ON ERROR	3A146330
0B25	0	7000			MOX		A74C	LOOP	3A146340
0B26	0	7003			MOX		J740		3A146350
OB27	0	4400	0F69	K740	BSI	L	F000		3A146360
OB 29					00		/3100		3A146370
		4400	OFC4	J740	851	L	F005	-	3A1463B0
OBZC	U	7006			MOX		A74C		3A146390 3A146400
0820	^	2000		8742			0	SET C AND OF OFF	3A146410
082E				0172	LOD		N74C	LO A#/FFFF Q#/7FFF	3A146420
082F					AO		N742	A /FFFF /FFFF	3A146430
0830					STS		N740	STORE CONDITION OF C & OF	
0B31	_				EOR		N742		3A146450
0832	0	4C18	0837		BSC	L	J742, E-	BRANCH ON ZERO	3A146460
0834	0	4400	0F69		8S I	Ł	F 000	AO FFFFEFFF A FAILEO	3A146470
0836	-				OC		/310F	ERR 10	3A146480
		4400	0F98	J742		L	FOOE	CK LOCK ON ERROR	3A146490
0839					MOX		B742	LOOP	3A146500 3A146510
083A 0835	-				RTE EOR		16 N748	INTERCHANGE A AND Q	3A146520
	_		0841		8SC	L	J744,&-	BRANCH ON ZERO	3A146530
	_	4400			128	Ĺ	F000	AO /7FFFEFFF Q /FAILEO	3A146540
0840			0.05		oc	-	/3110	ERR 10	3A146550
		4400	0F98	J744		L		CK LOCK ON ERROR	3A146560
0843			-	·	MOX		B742	LOOP	3A146570
0844	0	C028			LO		N740	LO C AND OF CONDITION	3A1465B0
0B45					EOR		N74B	ZERO IF CARRY WAS ON	3A146590
			0B54		BSC	L			3A146600
		4C04			BSC		K746,E	CHECK FOR CARRY	3A146610
		4400	0F69		BSI	L	F000		3A146620
084C			0564		00		/3112		3A146630 3A146640
084F	-	4400	OFC-		8SI MOX	L	F005 8742		3A146650
0B50					MOX		J746	Coor	3A146660
		4400	0F69	K746	BSI	L	F000	OVFLO ON	3A146670
0853			,		oc oc	-	/3111		3A146680
		4400	OFC4	J746	851	L			3A146690
0B56	0	7006			MOX		B742	LOOP	3A146700
								********	3A146710
						***	*********	*****************	
CORE			OR	*LA-					3A146730
ADDR								REMARKS	
		C81A		B747		+++	N746	LO A#/0000 Q#/0001	3A146750 3A146760
		8BIA		J 1 4 1	AO		N747	A /0001 /0001	3A146770
		F019			EOR		N747	ZERO ACC IF CORRECT OP	3A1467B0
		4C18	OB5F		BSC	L	J74B,&-	BRANCH ON ZERO	3A146790
		4400			851	L	F000	AD-000 A REG FAILEO	3A146800
085E	0	3113			OC		/3113	ERR 10	3A146810
		4400	OF9B	J74B	BSI	L	FOOE	CK LOCK ON ERROR	3A146820
		70F5			MOX		8747	LOOP	3A146830
		1800			RTE		16	NOW A#/0002 Q#/0000	3A146840
		F014 4C18	0940		EOR		N748	ZERO ACC IF CORRECT OP	3A146850 3A146B60
		_	0669 0F69		8SC 8S1	L	J74A,&- F000	BRANCH ON ZERO AO-OOO Q REG FAILEO	3A146870
		3114	Jru <del>y</del>		0C 021	L	/3114	ERR 10	3A1468B0
		4400	OFC4	J74A	8S I	L	F005	CK LOCK ON ERROR	3A146B90
		70EB	J. • •		MOX	•	B747	LOOP	3A146900
		700C			MOX	•	A780	EXIT TO NEXT ROUTINE	3A146910
		0000		N740	OC		/0000		3A146920
OB 6E		0000			BSS	E			3A146930

C	368C	0	FFFF		N742	00		/FFFF		3A146940
C	86F	0	FFFF			OC.		/FFFF		3A146950
C	<b>B70</b>	0	0000		N744	0C		/0000		3A146960
C	B71	0	0000			OC		/0000		3A146970
			0000		N746	00		/0000		3A1469B0
_		_	0001		N747	OC		/0001		3A146990
		_	FFFE		N74A	OC		/FFFE		3A147000
			7FFE		N74B	OC		/7FFE		3A147010
			FFFF		N74C	OC		/FFFF		3A147020
			7FFF			00		/7FFF		3A147030
•	<b>0878</b>	0	0002		N748	OC		/0002		3A147040
					*					3A147050
	•			•	*				TEST SUB DOUBLE	3A147060
									********	3A147070
	NR 70	^	2000		A780	LOS		0		3A1470B0
			CB67		ATOU	F00		N782	SET C AND OF OFF LO A#/0000 Q#/0000	3A147090 3A147100
			9868			50		N784	\$ /0000 /0001	3A147110
			2864			STS		N7B0	STORE C AND OF CONDITION	3A147120
		_	FO 6B			EOR			ZERO WITH /FFFF	3A147130
				0883			Ł	G780,&-	BRANCH ON ZERO	3A147140
				0F69			Ē	F000	SO 0000-0000 ACC FAILEO	3A147150
			3115			OC.	_	/3115	ERR ID	3A147160
(	0883	0	4400	0F98	<b>G780</b>		Ł	FOOE	CK LOCK ON ERROR	3A147170
(	0885	0	70F3			MOX		A780	LOOP	3A1471B0
(	0886	0	1800			RTE		16	NOW A#/FFFF Q#/0000	3A147190
(	0887	0	F05E			EOR		N786	ZERO WITH /FFFF	3A147200
			4C18			BSC	L	G7B2,&-	BR ON ZERO	3A147210
(	A880	0	4400	0F69		851	L	F000	SO 0000-0001 Q FAILEO	3A147220
(	DB8C	0	3116			OC		/3116	ERR 10	3A147230
				0F98	G782	BSI	L	F00E	CK LOCK ON ERROR	3A147240
			70 E9			MOX		A7BO	LOOP	3A147250
			C050			LO		N7BO	LO C AND OF CONDITION	3A147260
			F056			EOR		N7BB	ZERO IF CARRY WAS ON	3A147270
				08A0		BSC	L	G7B4, &-	BRANCH ON ZERO	3A1472B0
			4004			BSC	L	H784,E	CHECK FOR CARRY	3A147290
		_	4400	0F69		BSI	L	F000	CARRY NOT ON	3A147300
			3117	0564		00		/3117	ERR 10	3A147310
			4400	0564		BSI	L	F005	CK LOCK ON ERROR	3A147320
			70DD 7003			MOX		A780 G784	LOOP	3A147330 3A147340
		_		0F69	H7B4	BSI		F000	OVFLO DN	3A147350
			3118	0.07		oc.	-	/3118	ERR ID	3A147360
		_	4400	OFC4	G784		L	F005	CK LOCK ON ERROR	3A147370
			7006		• • • •	MOX	•	A7B0	LOOP	3A1473B0
		_			****	*****	***		**********	3A147390
1	***	**	****	******	*****	*****	***	********	*****************	
	CORE			A OR	*LA-					3A147410
	AOOR		INS	TRUCTION	*8EL	ATION	FT	OPERANOS &	REMARKS 108SEQ# AT RIGHT	3A147420
	****	**							*****************	
(	OBA3	0	2000		A786	LOS		0	SET C AND OF OFF	3A147440
			C830			F00		N782	LO A#/0000 Q#/0000	3A147450
			9840			SO		N786	/FFFF /FFFF	3A147460
			4C18			8SC	L	G786,&-	BRANCH ON ZERO	3A147470
		-		0F69			L	F000	SO 0000-FFFF A FAILEO	3A147480
		_	3119			OC		/3119	ERR 10	3A147490
			4400		G786		L	FOOE	CK LOCK ON ERROR	3A1 47500
			70F5			MOX		A786	LOOP	3A147510
			1800			RTE		16	NOW A#/0001 Q#/0000	3A147520
			F035			EOR		N785	ZERO WITH /0001	3A147530
				0885		8 S C	L	G788, &-	BRANCH ON ZERO SO 0000-FFFF Q FAILED	3A147540
				0F69		8S I	L	F000	<del>-</del>	3A147550
			311A		C755	00		/311A	ERR IO	3A147560 3A147570
			4400		G7B8	851 MOX	L	F005 A7B6	CK LOCK ON ERROR	3A147580
	U05/	U	70EB		****	MOX	***		LUUP	3A147590
	0800	0	C831		A78A	FD0		N78A	LO A#/0000 Q#/C000	3A147600
			9820		A 1 0 A	SO		N7B6	S /FFFF /FFFF	3A147610
	J J J J	•	,520					=	• • • • • • • • • • • • • • • • • • • •	

DC /3121

**ERR 10** 

0007 0 3121

PROG 10

PAGE

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36 A

0884	0	4C18	088F		8SC	L	G78A.E-	BRANCH ON ZERO	3A147620
		4400			851	ī	F000	SD 0000-FFFF A FAILEO	3A147630
		3118			OC.	_	/3118	ERR 10	3A147640
08BF	0	4400	0F98	G78A		L	FOOE	CK LOCK ON ERROR	3A147650
		70F6			MOX	-	A78A	LOOP	3A147660
0802	0	1800			RTE		16	NOW A#/C001 Q#/0000	3A147670
0803	0	F025			EOR		N780	ZERO WITH /COOL	3A147680
08C4	0	4C18	0869		8SC	L	G78C,&-	BRANCH ON ZERO	3A147690
0806	0	4400	0F69		851	L	F000	SO COOO-FFFF Q FAILED	3A147700
08C8					OC		/311C	ERR IO	3A147710
		4400	OFC4	G78C	851	L	F005	CK LOCK ON ERROR	3A147720
08C8	0	70EC			MDX		A78A	LOOP	3A147730
	_					***		*******	3A147740
		C815		A78E	LOO		N782	LD A#/0000 Q#/0000	3A147750
0800					SO		N787	S /FFFF /FFFF	3A147760
		4C18			8SC	L	678E+&-	BRANCH ON ZERO	3A147770
			0F69		851	L	F000	SO-000 A FAILED	3A147780
C802			0500	6705	00		/3110	ERR ID	3A147790
		4400	UF98	G78E	851	L	FOOE	CK LOCK ON ERROR	3A147800
		70F6 1800			MOX RTE		A78E	LOOP	3A147810
0807					ÉOR		16	NDW A#/0001 Q#/0000	3A147820
		4C18	0800		8SC	L	N785 H780, &-	ZERO WITH /0001 BRANCH DN ZERO	3A147830
		4400			851	Ľ	F000	SO-000 Q FAILEO	3A147840
08DC			0.07		DC	-	/311E	ERR 10	3A147850 3A147860
		4400	OFC4	H780	851	L	F005	CK LOCK ON ERROR	3A147870
080F					MOX	-	A78E	LOOP	3A147880
08E0					MOX		A7CO	EXIT TO NEXT ROUTINE	3A147890
08E1	Ō	0000		N780	DC		/0000	STDRAGE	3A147900
08E2		0000			855	£			3A147910
08E2	0	0000		N782	OC		/0000		3A147920
08E3	0	0000			OC		/0000		3A147930
08E4	0	0000		N784	OC		/0000		3A147940
08E5	0	0901		N785	DC		/0001		3A147950
08E6				N786	DC		/FFFF		3A147960
08E7				N787	DC		/FFFF		3A147970
08E8				N788	OC		<b>/00</b> 02		3A147980
OBE9		_		N780	DC		/C001		3A147990
08EA				N78A	OC		/0000		3 <b>A148</b> 000
OBEB	0	C 0 0 0		_	OC		/C000		3A148010
				*			7	35 WW 715 W 9565 FT61	3A148020
		_		<b>.</b>			1521	DF MULTIPLY OPERATION	3A148030
				****				******	3A148040
****	**	****	*******					***********	3A148050
CORE	•	OATA		*LA-		***			
AODR						FT	OPERANOS &	REMARKS 10&SEQ# AT RIGHT	3A148070
	**	****	******	****	****	***	********	**************	34148000
08EC	0	C 04F		A7C0	LO		N7CO	LD /5555	3A148100
08E0	Ô	AO4F			M		N7C1	H /ZAAA	3A148110
08EE	0	FO4F			E OR		N7C2	ZERO WITH /OE38	3A148120
OBEF	0	4C18	08F4			L	G7C0,&-	BRANCH ON ZERO	3A148130
08F1	0	4400	0F69		851	Ē	F000	M /5555X/2AAA ACC FAILED	3A148140
OBF3					OC.		/311F	ERR 1D	3A148150
OBF4			0F98	G7C0	851	L	FOOE	CK LOCK ON ERROR	3A148160
08F6					MDX		A7CO	LOOP	3A148170
08F7					RTE		16	NOW A#/9C72 Q#/0000	3A148180
OBF8					EOR		N7C3	ZERO WITH /9C72	3A148190
08F9					8 SC	L	G7C2,&-	BRANCH ON ZERO	3A148200
08F8			0F69		851	L	F000	MULT 5555XZAAA Q FAILED	3A148210
08FD					00		/3120	ERR 10	3A148220
08FE			UFC4	G7C2	851	L	F005	CK LOCK ON ERROR	3A148230
0000	U	/UEB			MOX		A7CO	LOOP	34148240

0007					DC		/3121	ERR 10	3A148300
			0F98	G7C4		L	FOOE	CK LOCK ON ERROR	3A148310
OCOA					MOX		A7C4	LOOP	3A148320
0C08					RTE		16	NOW A#/0001 Q#/0000	3A148330
0000					E OR		N7C5	ZERO WITH /0001	3A148340
			OC12		8SC	L	N7C5 G7C6+&-	BRANCH ON ZERO	3A148350
			0F69		851	L	F000	M /FFFFX/FFFF Q REG FAILEO	3A148360
OC 11	_				0C		/3122	ERR IO	3A148370
0C12	0	4400	OFC4	G7 <b>C6</b>	851	L	F005	CK LOCK ON ERROR	3A148380
QC 14	0	70EC			MOX		A7C4	LOOP	3A148390
•				****	****	***	*********	************	3A148400
0C15				A7C8	LO		N7C6	LO /0000	3A148410
0016					M		N7C4	M /FFFF	3A148420
OC 17	0	4C18	OCIC		8SC	L	G7C8,&-	BRANCH ON ZERO	3A148430
0C19	0	4400	0F69		BSI	L	F000	M /FFFFX/0000 ACC FAILEO	3A148440
OC18	0	3123			00		/3123	ERR 10	3A148450
0010	0	4400	<b>0</b> F98	G7C8	851	L	FOOE	CK LOCK ON ERROR	3A148460
0C1E	0	70F6			MOX		A7C8	LOOP	3A148470
0C1F					RTE		16	NOW A#/0000 Q#/0000	3A148480
0C20	0	4C18	0C25		8SC	L	G7CA,&- F000	BRANCH ON ZERO	3A148490
0C22	0	4400	0F69		851	L	F000	M /FFFFX/0000 Q REG FAILED	
0024	0	3124			DC		/3124	ERR 10	3A148510
0C25	0	4400	OFC4	G7CA	851	L	F005	CK LOCK ON ERROR	3A148520
0C27				_	MOX		A7C8	LOOP	3A148530
				****	****	***		************	3A148540
0C28	0	C017			LO		N7C4	LO /FFFF	3A148550
0C29	0	A018		_	M		N7C6	M /0000	3A148560
			OC2F		8SC	L	67CC.E-	BRANCH ON ZERO	3A148570
			0F69		851	Ē	F000	M /0000X/FFFF ACC FAILEO	34148580
OC2E					OC	_	/3125	ERR 1D	3A148590
OC2F	0	4400	0F98	G7CC		1	FOOE	CK LOCK ON ERROR	3A148600
0C31			• • • •		MOX	-	A7CC	LOOP	3A148610
0C32					RTE		16	NOW A#/0000 Q#/0000	3A148620
0033	O	46.18	0.638		BSC.		G7CF.E-	ARANCH ON TERM	4
			0C38 0F69		BSC BSI	L		BRANCH ON ZERO M /0000X/FFFF O REG FAILED	3A148630
0C35	0	4400	0C38 0F69		851	L	F000	M /0000X/FFFF Q REG FAILED	3A148640
0C35 0C37	0	4400 3126	0F69		8SI DC	L	F000 /3126	M /0000X/FFFF Q REG FAILED ERR 10	3A148640 3A148650
0C35 0C37 0C38	0 0 0	4400 3126 4400		G7CE	BSI BSI	L	F000 /3126 F005	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR	3A148640 3A148650 3A148660
0C35 0C37 0C38 0C3A	0 0 0	4400 3126 4400 70ED	0F69		BSI BSI MOX	L	F000 /3126 F005 A7CC	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP	3A148640 3A148650 3A148660 3A148670
0C35 0C37 0C38 0C3A 0C3B	0 0 0 0	4400 3126 4400 70ED 7007	0F69	G7CE	BSI BSI MOX MOX	L	F000 /3126 F005 A7CC A800	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR	3A148640 3A148650 3A148660 3A148670 3A148680
0C35 0C37 0C38 0C3A 0C3B 0C3C	0 0 0 0 0	4400 3126 4400 70ED 7007 5555	0F69	G7CE N7C0	BSI BSI MOX MOX OC	L	F000 /3126 F005 A7CC A800 /5555	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP	3A148640 3A148650 3A148660 3A148670 3A148680 3A148690
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D	000000	4400 3126 4400 70ED 7007 5555 2AAA	0F69	G7CE N7C0 N7C1	8 S I DC BS I MOX MOX OC OC	L	F000 /3126 F005 A7CC A800 /5555 /2AAA	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP	3A148640 3A148650 3A148660 3A148670 3A148680 3A148690 3A148700
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3E	0000000	4400 3126 4400 70ED 7007 5555 2AAA 0E38	0F69	G7CE N7C0 N7C1 N7C2	8 S I DC B S I MOX MOX OC OC DC	L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP	3A148640 3A148650 3A148660 3A148670 3A148680 3A148690 3A148700 3A148710
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3E 0C3F	00000000	4400 3126 4400 70ED 7007 5555 2AAA 0E38 9C72	0F69	G7CE N7C0 N7C1 N7C2 N7C3	BSI DC BSI MOX MOX OC OC DC	L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP	3A148640 3A148650 3A148660 3A148670 3A148680 3A148690 3A148700 3A148710 3A148720
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3E 0C3F 0C40	000000000	4400 3126 4400 70ED 7007 5555 2AAA 0E38 9C72 FFFF	0F69	G7CE N7C0 N7C1 N7C2 N7C3 N7C4	8 S I DC B S I MOX MOX OC OC DC OC DC	L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP	3A148640 3A148650 3A148660 3A148670 3A148680 3A148690 3A148700 3A148710 3A148730
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3E 0C3F 0C40 0C41	000000000	4400 3126 4400 70ED 7007 5555 2AAA 0E38 9C72 FFFF 0001	0F69	G7CE N7C0 N7C1 N7C2 N7C3 N7C4 N7C5	BSI DC BSI MOX MOX OC OC DC DC DC	L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP	3A148640 3A148650 3A148660 3A148670 3A148680 3A148700 3A148710 3A148710 3A148720 3A148720 3A148740
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3E 0C3F 0C40	000000000	4400 3126 4400 70ED 7007 5555 2AAA 0E38 9C72 FFFF 0001	0F69	G7CE N7C0 N7C1 N7C2 N7C3 N7C4	8 S I DC B S I MOX MOX OC OC DC OC DC	L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP	3A148640 3A148660 3A148660 3A148670 3A148680 3A148690 3A148710 3A148710 3A148720 3A148730 3A148730 3A148740 3A148750
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3E 0C3F 0C40 0C41	000000000	4400 3126 4400 70ED 7007 5555 2AAA 0E38 9C72 FFFF 0001	0F69	G7CE N7C0 N7C1 N7C2 N7C3 N7C4 N7C5 N7C6	BSI DC BSI MOX MOX OC OC DC DC DC	L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE	3A148640 3A148660 3A148660 3A148670 3A148680 3A148690 3A148710 3A148720 3A148720 3A148730 3A148740 3A148740 3A148760
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3E 0C3F 0C40 0C41	000000000	4400 3126 4400 70ED 7007 5555 2AAA 0E38 9C72 FFFF 0001	0F69	G7CE N7C0 N7C1 N7C2 N7C3 N7C4 N7C5 N7C6	BSI DC BSI MOX MOX OC OC DC DC DC	L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP	3A148640 3A148650 3A148660 3A148670 3A148680 3A148690 3A148710 3A148720 3A148730 3A148730 3A148750 3A148750 3A148750 3A148770
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3E 0C3F 0C40 0C41	000000000	4400 3126 4400 70ED 7007 5555 2AAA 0E38 9C72 FFFF 0001	0F69	G7CE  M7C0 N7C1 N7C2 N7C3 N7C4 N7C5 N7C6 *	BSI DC BSI MOX MOX OC OC DC OC DC		F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE	3A148640 3A148650 3A148660 3A148670 3A148680 3A148690 3A148710 3A148720 3A148730 3A148740 3A148750 3A148760 3A148770 3A148770 3A148780
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3E 0C3F 0C40 0C41	0000000000	4400 3126 4400 70ED 7007 5555 2AAA 0E38 9C72 FFFF 0001 0000	0F69 0FC4	G7CE N7C0 N7C1 N7C2 N7C3 N7C4 N7C5 N7C6 * * *******	8SI DC BSI MOX MOX OC DC OC DC OC	L L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION	3A148640 3A148660 3A148670 3A148680 3A148690 3A148710 3A148720 3A148730 3A148730 3A148740 3A148750 3A148760 3A148770 3A148780 3A148790
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3E 0C3F 0C40 0C41	0000000000	4400 3126 4400 70ED 7007 5555 2AAA 0E38 9C72 FFFF 0001 0000	0F69 0FC4	97CE N7C0 N7C1 N7C2 N7C3 N7C4 N7C5 N7C6 * * *******	8 SI DC BSI MOX MOX OC OC DC OC DC	L L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION	3A148640 3A148660 3A148670 3A148680 3A148700 3A148710 3A148720 3A148730 3A148730 3A148750 3A148760 3A148760 3A148760 3A148780 3A148780 3A148780 3A1488800
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3E 0C3F 0C40 0C41	0000000000	4400 3126 4400 70ED 7007 5555 2AAA 0E38 9C72 FFFF 0001 0000	0F69 0FC4	G7CE  M7C0 N7C1 N7C2 N7C3 N7C4 N7C6 * * * * * * * * * * * * * * * * * * *	8 SI DC BSI MOX OC OC DC OC DC OC	L L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION	3A148640 3A148650 3A148660 3A148680 3A148690 3A148700 3A148710 3A148720 3A148730 3A148750 3A148760 3A148770 3A148780 3A148780 3A148780 3A148800 3A148810
0C35 0C37 0C38 0C3A 0C3C 0C3D 0C3E 0C3F 0C40 0C41 0C42	000000000	4400 3126 4400 70ED 7007 5555 2AAA 0E38 9C72 FFFF 0001 0000	OF69  OFC4  A OR  IRUCTION	G7CE  N7C0 N7C1 N7C2 N7C3 N7C4 N7C5 * * *******	8SI DC BSI MOX OC OC DC OC OC OC	L L *****	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000 TEST [	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION	3A148640 3A148650 3A148660 3A148680 3A148690 3A148700 3A148710 3A148720 3A148730 3A148750 3A148750 3A148760 3A148770 3A148780 3A1488800 3A148800 3A148810 3A148820
0C35 0C37 0C38 0C3A 0C3C 0C3D 0C3E 0C3F 0C40 0C41 0C42	0000000000	4400 3126 4400 70ED 70ED 75555 2AAA 0E38 9C72 FFFF 0001 0000	OF69  OFC4  A OR  IRUCTION	N7C0 N7C1 N7C2 N7C3 N7C4 N7C5 N7C6 * * *	8SI DC BSI MOX OC OC DC OC OC OC OC	L L *****	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000 TEST [	M / 0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION  REMARKS 108SEQ# AT RIGHT	3A148640 3A148650 3A148660 3A148680 3A148690 3A148700 3A148710 3A148720 3A148730 3A148750 3A148750 3A148760 3A148770 3A148780 3A1488800 3A1488800 3A148800 3A148810 3A148830
0C35 0C37 0C38 0C3A 0C3C 0C3D 0C3E 0C3F 0C40 0C41 0C42	0000000000	4400 3126 4400 70ED 70ED 7555 2AAA 0E38 9C72 FFFF 0001 0000 ************************	OF69  OFC4  A OR  IRUCTION	G7CE  N7C0 N7C1 N7C2 N7C3 N7C4 N7C5 * * *******	8SI DC BSI MOX OC OC DC OC OC OC	L L *****	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000  TEST [ ************************************	M / 0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION  REMARKS 10&SEQ# AT RIGHT  REMARKS 10&SEQ# AT RIGHT	3A148640 3A148650 3A148660 3A148680 3A148690 3A148710 3A148710 3A148720 3A148720 3A148740 3A148750 3A148760 3A148760 3A148780 3A148780 3A1488800 3A148810 3A148810 3A148820 3A148840
0C35 0C37 0C38 0C38 0C3C 0C3D 0C3E 0C40 0C41 0C42	00000000000	4400 3126 4400 70ED 70E07 5555 2AAA 0E38 9C72 FFFF 0001 0000 ************************	OF69  OFC4  OFC4  OFC4  OCE2	N7C0 N7C1 N7C2 N7C3 N7C4 N7C5 N7C6 * * *	8SI DC BSI MOX OC OC DC OC DC OC DC OC DC OC DC	L 	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000  TEST [ ************************************	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION  REMARKS 10&SEQ# AT RIGHT SET C ANO OF OFF LO A#/4000 Q#/7FFF	3A148640 3A148660 3A148670 3A148680 3A148690 3A148710 3A148720 3A148730 3A148730 3A148750 3A148760 3A148760 3A148760 3A148780 3A148780 3A1488800 3A1488800 3A1488800 3A148850
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3E 0C40 0C41 0C42	00000000000	4400 3126 4400 70ED 70ED 75555 2AAA 0E38 9C72 FFFF 0001 0000 ************************	OF69  OFC4  OFC4  OFC2  OCF2	N7C0 N7C1 N7C2 N7C3 N7C4 N7C5 N7C6 * * *	8 S I DC BS I MOX OC OC DC DC DC DC DC DC DC DC DC DC DC DC DC	L ••••• •FT	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000  TEST [ ************************************	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION  REMARKS 108SEQ# AT RIGHT  SET C ANO OF OFF LO 48/4000 Q#/7FFF 0 /8000	3A148640 3A148660 3A148670 3A148680 3A148690 3A148710 3A148720 3A148730 3A148730 3A148750 3A148760 3A148760 3A148790 3A148810 3A148800 3A148800 3A148800 3A148800 3A148800 3A148800 3A148800 3A148800 3A148800 3A148800 3A148800 3A148800 3A148800 3A148800 3A148800 3A148800 3A148800 3A148800
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3E 0C40 0C41 0C42	00000000000	4400 3126 4400 70ED 70ED 75555 2AAA 0E38 9C72 FFFF 0000 0000 ******* 1NS1 ****** 2000 CC00 AC00 2C00	OF69  OFC4  A OR  IRUCTION  OCE2  OCF2  OCE1	N7C0 N7C1 N7C2 N7C3 N7C4 N7C5 N7C6 * * *	8 S I DC BS I MOX OC OC OC OC OC OC OC OC OC OC OC OC OC	L L FT	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000  TEST { ************************************	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION  ***********************************	3A148640 3A148650 3A148660 3A148680 3A148690 3A148700 3A148710 3A148720 3A148730 3A148730 3A148750 3A148760 3A148770 3A148780 3A148810 3A148810 3A148830 3A148850 3A148850 3A148860 3A148870
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3F 0C40 0C41 0C42	00000000000	4400 3126 4400 70ED 70ED 75555 2AAA 0E38 9C72 FFFF 0001 0000 ******* 1NS1 ****** 2000 CC00 AC00 2C00 F400	OF69  OFC4  A OR IRUCTION  OCE2 OCF2 OCF2 OCF2	N7C0 N7C1 N7C2 N7C3 N7C4 N7C5 N7C6 * * *	8SI DC BSI MOX OC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC DC DC DC DC DC DC DC DC DC DC DC DC	L L FT	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000  TEST [ ####################################	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION  ***********************************	3A148640 3A148650 3A148660 3A148680 3A148680 3A148690 3A148700 3A148710 3A148720 3A148730 3A148750 3A148760 3A148760 3A148760 3A148780 3A1488800
0C35 0C37 0C38 0C38 0C3B 0C3C 0C3D 0C3E 0C40 0C41 0C42 ***** CDRE A00R ***** 0C46 0C46 0C46 0C48 0C46	00000000000	4400 3126 4400 70ED 70ED 75555 2AAA 0E38 9C72 FFFF 0001 0000 ******* 2000 CC00 AC00 2C00 4C18	OF69  OFC4  OFC4  OFC5  OCE2 OCF2 OCF2 OCF2 OCF2 OCF2 OCF3	N7C0 N7C1 N7C2 N7C3 N7C4 N7C5 N7C6 * * *	8SI DC BSI MOX OC OC DC DC DC DC DC DC DC DC DC DC DC DC DC	L L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000  TEST [ ************************************	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION  ***********************************	3A148640 3A148650 3A148660 3A148680 3A148690 3A148710 3A148720 3A148720 3A148720 3A148740 3A148750 3A148760 3A148760 3A148780 3A148780 3A148800 3A148810 3A148840 3A148850 3A148850 3A148850 3A148860 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880
0C35 0C37 0C38 0C38 0C3B 0C3C 0C3E 0C3F 0C40 0C41 0C42 ************************************	000000000000000000000000000000000000000	4400 3126 4400 70ED 70ED 75555 2AAA 0E38 9FFFF 0001 0000 ******* 2000 AC00 2C00 AC00 4C18 4400	OF69  OFC4  OFC4  OFC5  OCE2 OCF2 OCF2 OCF2 OCF2 OCF2 OCF3	N7C0 N7C1 N7C2 N7C3 N7C4 N7C5 N7C6 * * *	8 S I D C B S I M O X O C O C O C O C O C O C O C O C O C	L L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000  TEST [ ************************************	M /0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION  ***********************************	3A148640 3A148650 3A148660 3A148670 3A148680 3A148700 3A148710 3A148720 3A148730 3A148750 3A148750 3A148760 3A148760 3A148780 3A148780 3A148890 3A148850 3A148850 3A148860 3A148860 3A148860 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148880 3A148890 3A148890
0C35 0C37 0C38 0C3B 0C3B 0C3C 0C3D 0C3E 0C40 0C41 0C42 ***** 0C44 0C44 0C44 0C44 0C44 0C48 0C4A 0C4A 0C4A	***	4400 3126 4400 70ED 70ED 75555 2AAA 0E38 9C72 FFFF 0001 0000 ****** 0ATA INSI ***** 2C00 AC00 2C00 F400 4C18 4400 3127	0F69 0FC4  A OR FRUCTION  OCE2 OCF2 OCE1 OCF2 OC51 OF69	97CE  N7C0  N7C1  N7C2  N7C3  N7C6  *  *  **  **  *ABCL A	851 DC BSI MOX OC OC OC OC OC OC OC OC OC OC OC OC OC	L L L L L L L L L L L L L L L L L L L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /0E38 /0C72 /FFFF /0001 /0000  TEST [ ************************************	M / 0000X/FFFF Q REG FAILEO ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION  ***********************************	3A148640 3A148660 3A148670 3A148680 3A148690 3A148710 3A148720 3A148730 3A148730 3A148770 3A148770 3A148770 3A148770 3A148790 3A148810 3A148810 3A148850 3A148860 3A148860 3A148880 3A148880 3A148880 3A148890 3A148890 3A148910
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3D 0C3E 0C41 0C42 ***** 0C44 0C42 0C46 0C46 0C46 0C46 0C46 0C46 0C46 0C46	***	4400 3126 4400 70ED 70ED 75555 2AAA 0E38 9CFFF 0000 0000 ******* 1NS1 ***** 2C000 AC00 2C000 F4C18 4400 44127 4400	0F69 0FC4  A OR FRUCTION  OCE2 OCF2 OCE1 OCF2 OC51 OF69	N7C0 N7C1 N7C2 N7C3 N7C4 N7C5 N7C6 * * *	851 DC BSI MOX OC OC OC OC OC OC OC OC OC OC OC OC OC	L L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000  TEST [ ************************************	M / 0000X/FFFF Q REG FAILEO ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION  ***********************************	3A148640 3A148650 3A148660 3A148670 3A148670 3A148700 3A148710 3A148720 3A148730 3A148730 3A148760 3A148760 3A148760 3A148760 3A148760 3A148760 3A148870 3A148800 3A148800 3A148800 3A148850 3A148850 3A148860 3A148870 3A148870 3A148870 3A148890 3A148910 3A148910 3A148920
0C35 0C37 0C38 0C3A 0C3B 0C3C 0C3P 0C41 0C42 ***** 0C44 0C44 0C46 0C46 0C46 0C46 0C50 0C51 0C53	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4400 3126 4400 70ED 70ED 75555 2AAA 9C7F FF000 0000 ******* 1NS1 ***** 2CC00 ACC00 2CC00 4C18 43127 4400 70EF	0F69 0FC4  A OR FRUCTION  OCE2 OCF2 OCE1 OCF2 OC51 OF69	97CE  N7C0  N7C1  N7C2  N7C3  N7C6  *  *  **  **  *ABCL A	BSI DC BSI MOX OC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC OC DC DC DC DC DC DC DC DC DC DC DC DC DC	L L L L L L L L L L L L L L L L L L L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000  TEST { ************************************	M / 0000X/FFFF Q REG FAILEO ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF OIVIOE OPERATION  ***********************************	3A148640 3A148650 3A148660 3A148670 3A148680 3A148690 3A148700 3A148710 3A148720 3A148730 3A148750 3A148760 3A148760 3A148770 3A148780 3A148810 3A148810 3A148820 3A148850 3A148850 3A148850 3A148860 3A148870 3A148890 3A148890 3A148990 3A148910 3A148930
0C35 0C37 0C38 0C38 0C3B 0C3C 0C3D 0C3E 0C40 0C41 0C42 ***** CDRE ***** CDRE ***** COA6 0C46 0C46 0C46 0C46 0C46 0C46 0C46 0C4	000000000000000000000000000000000000000	4400 3126 4400 70ED7 5555 2AAA 0E38 9C72 FFFF 0001 0000 ******** 2000 ACC00 ACC00 F4400 4400 4400 4400 4400 127 470EF 1800	0F69 0FC4 0FC4 A OR IRUCTION 0CE2 0CF2 0CF2 0CF2 0CF2 0CF3 0CF9 0F98	97CE  N7C0  N7C1  N7C2  N7C3  N7C6  *  *  **  **  *ABCL A	8SI DC BSI MOX OC OC OC OC OC OC OC OC OC OC OC OC OC	L L ***** FT*** L L L L L L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000  TEST [ ************************************	M / 0000X/FFFF Q REG FAILED ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION  ***********************************	3A148640 3A148650 3A148680 3A148680 3A148690 3A148700 3A148710 3A148720 3A148720 3A148730 3A148740 3A148760 3A148760 3A148770 3A148780 3A148800 3A148810 3A148840 3A148850 3A148850 3A148850 3A148870 3A148890 3A148930 3A148930 3A148930 3A148940
0C35 0C37 0C38 0C38 0C3B 0C3C 0C3C 0C3C 0C41 0C42 ************************************	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4400 3126 4400 70ED7 5555 2AAA 0E38 9C72 FFFF 0001 0000 ******** 2000 4C18 4400 4C18 4400 F400 F400 F400	0F69 0FC4 0FC4 0R IRUCTION ************************************	97CE  N7C0  N7C1  N7C2  N7C3  N7C6  *  *  **  **  *ABCL A	8SI DC BSI MOX OC OC OC OC OC OC OC OC OC OC OC OC OC	L L **** F** L L L L L L L L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000  TEST [ ************************************	M / 0000X/FFFF Q REG FAILEO ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION  ***********************************	3A148640 3A148650 3A148660 3A148680 3A148690 3A148710 3A148710 3A148720 3A148730 3A148750 3A148750 3A148760 3A148760 3A148780 3A148780 3A148890 3A148800 3A148850 3A148850 3A148860 3A148860 3A148890 3A148990 3A148910 3A148930 3A148940 3A148950
0C35 0C37 0C38 0C38 0C3B 0C3D 0C3E 0C3F 0C41 0C42 ************************************	0000000000 * * 000000000000000	4400 3126 4400 70E07 5555 2AAA 0E38 9FFFF 0001 0000 ******* 1NS1 ***** 2C000 AC00 4C108 4400 3127 4400 71800 F4C18	0F69 0FC4 0FC4 A OR FRUCTION 0CE2 0CF2 0CF2 0CF1 0CF9 0CF9 0CF1 0CF1 0C5C	97CE  N7C0  N7C1  N7C2  N7C3  N7C6  *  *  **  **  *ABCL A	8SI DC BSI MOX OC OC O	L L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000  TEST [ ************************************	M / 0000X/FFFF Q REG FAILEO ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION  ***********************************	3A148640 3A148650 3A148660 3A148670 3A148670 3A148700 3A148710 3A148720 3A148730 3A148730 3A148760 3A148760 3A148770 3A148780 3A148790 3A148810 3A148820 3A148850 3A148860 3A148860 3A148860 3A148870 3A148890 3A148930 3A148930 3A148940 3A148940 3A148950 3A148960
0C35 0C37 0C38 0C38 0C3B 0C3C 0C3C 0C3C 0C41 0C42 ************************************	0000000000 * * 000000000000000	4400 3126 4400 70E07 5555 2AAA 0E38 9FFFF 0001 0000 ******* 1NS1 ***** 2C000 AC00 4C108 4400 3127 4400 71800 F4C18	0F69 0FC4 0FC4 A OR FRUCTION 0CE2 0CF2 0CF2 0CF1 0CF9 0CF9 0CF1 0CF1 0C5C	97CE  N7C0  N7C1  N7C2  N7C3  N7C6  *  *  **  **  *ABCL A	8SI DC BSI MOX OC OC OC OC OC OC OC OC OC OC OC OC OC	L L **** F** L L L L L L L L	F000 /3126 F005 A7CC A800 /5555 /2AAA /0E38 /9C72 /FFFF /0001 /0000  TEST [ ************************************	M / 0000X/FFFF Q REG FAILEO ERR 10 CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE  OF DIVIDE OPERATION  ***********************************	3A148640 3A148650 3A148660 3A148680 3A148690 3A148710 3A148710 3A148720 3A148730 3A148750 3A148750 3A148760 3A148760 3A148780 3A148780 3A148890 3A148800 3A148800 3A148850 3A148850 3A148860 3A148860 3A148890 3A148990 3A148910 3A148930 3A148940 3A148950

0C01 0 C03E

0C02 0 A030

0003 0 4018 0008 0C05 0 4400 0F69 A7C4 L0

BRANCH ON ZERO 3A148280 M /FFFFX/FFFF ACC FAILED 3A148290

LD /FFFF

M /FFFF

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

N7C4

85C L G7C4, &-

851 L F000

N7C4

3A148240

3A148250

3A148260

3A148270

0C58			0500		DC			ERR ID	3A148980
0C5C			0198	G802	BSI MDX	L	F00E A800	CK LOCK ON ERROR	3A148990
0C5F	-						N7C6	LOOP	3A149000 3A149010
0000	_		OCAE		LD BSC	L	-	LD /0000 Branch on Zero	3A149020
0062							H804,E	BR ON NOT EVEN	3A149030
0064					BSI		F000	CARRY ON	3A149040
0666			0.0,		DC.	-	/3129	ERR ID	3A149050
0C67			OFC4		BSI	L	F005	CK LDCK ON ERRDR	3A149060
0069					MDX	_	A800	LOOP	3A149070
0C6A					MDX		A806	EXIT TO NEXT ROUTINE	3A149080
0C6B	0	4400	0F69	H804	BSI	L	F000	OVFLO ON	3A149090
0C6D	0	312A			DC		/312A	ERR 10	3A149100
960C	0	4400	OFC4	GE04	BSI	L	F005	CK LDCK ON ERROR	3A149110
0670	0	70D2			MDX		A800	LDDP	3A149120
	_					***		******	3A149130
0C71				A806			N804		34149140
0C72			OCF3		D	L		D /5555	3A149150
0074					STS		N800	STORE C AND OF CONDITION	3A149160
0075			0070		EOR			ZERD WITH /55555	3A149170
0076								BRANCH DN ZERD	3A149180
0C7A		4400	UFGY		BS I DC	L	F000 /312B	DVD-A REG INCORRECT ERR ID	3A149190
_	_	4400	OEG P	G806		L		CK LDCK DN ERROR	3A149200 3A149210
0C 7D			0176	3000	MDX	-		LDOP	3A149220
OC7E					RTE			NDW A#/BBE3 Q#/0000	3A149230
OC7F					EOR		N816	ZERD WITH /20AA	3A149240
		4C18	0085		BSC	L	G808,&-	BRANCH ON ZERD	3A149250
		4400			BSI	ī		OVD-Q REG INCDRRECT	3A149260
0084	0	312C			DC		/312C	ERR 10	3A149270
0085	0	4400	0F98	G808	BSI	L	FOOE	CK LOCK DN ERRDR	3A149280
0087	0	70E9			MDX		A806	LOOP	3A149290
8820	0	C058			LD		N800	LD C ANO DF CONDITION	3A149300
		4C18			BSC	L	-3, A08D	BRANCH ON ZERD	3A149310
		4004			BSC	L	H80A, E	BR IF NOT EVEN	3A149320
		4400	0F69		BSI	L	F000	CARRY ON	3A149330
0C8F					DC		/3120	ERR ID	3A149340
		4400	OFC4		BSI	L		CK LOCK ON ERROR	3A149350
0092					MDX		AB06	LOOP	3A149360
0093			05/0		MDX		A80C	EXIT TO NEXT ROUTINE	3A149370
_		4400	0169	HOOA		L		OVFLO ON	3A149380
0096		4400	0504	C 0 0 4	DC		/312E	ERR 10	3A149390
0099			UFC4	GBOA	WDX	L	F005 A806	CK LOCK ON ERROR	3A149400 3A149410
00,,	•			****		***		*******	3A149420
****	**	****	*****					**********	34149420
CORE		DATA		*LA-					3A149440
AOOR				_		FT	DPERANOS &	REMARKS IDESEQ# AT RIGHT	
****	**	****	******	*****	*****	***	*********	******************	3A149460
0C9A	0	2000		ABOC	LOS		0	SET C AND OF OFF	3A149470
0C9B		_			L <b>O</b> D		N806	SET A#/0000 Q#/0001	3A149480
0090					0		NBOE	D /0000	3A149490
		4C01			BSC	L	G80C+0	BRANCH ON OVERFLUN	3A149500
		4400	UF 69	HBOC	BSI	L	F000	OYO BY O- OFL OFF	3A149510
OCAL			0001	C000	DC		/312F	ERR ID	3A149520
OCA4		4400 705 5	UFU4	G80C	BSI	L	F005	CK LOCK ON ERROR	3A149530
	-				MDX		A80C	LOOP	3A149540
OCA5					RTE E OR		16 N807	SWAP A ANO Q	3A149550
		4C20	ULGE			L	1180C . Z	ACC S/8 /0000 BCH UNLESS ZERO	3A149560
JUA !	9	+0£0	00 M	****		_		***********	3A149570
OCA9	0	2000		ABOE	LDS		0	SET C AND OF OFF	3A149580 3A149590
OCAA				-00L	LDO		N808	LO A#/4000 Q#/0000	3A149600
OCAB					0		N807	D /0001	3A149610
		4C01	OCB1		8 S C	L	G80E+D	BRANCH ON DVERFLOW	3A149620
		4400			BSI	ī	F000	DVD-BY 1-OVRFLW OFF	3A149630
					DC	-	/3130	ERR ID	
OCBO	U	3130			UL			ERR ID	381 44 660
		4400	OFC4	G80E	BSI	L	F005	CK LOCK ON ERROR	3A149640 3A149650

OC83 0 70F5	****	MOX		A80E	LDDP	3A149660
OC84 0 2000	8800	LDS	***	0	*******************	3A149670
OCB5 O C834	0000	LDD		N80A	SET C ANO DF DFF	3A149680
OC86 O A831		D		N808	LD A#/A000 ¥#/0000 D /4000	3A149690 3A149700
OCB7 0 4C01 OCBC		BSC	L	J800.D	BRANCH ON OVERFLOW	3A149710
OCB9 0 4400 OF69		851	ī	F000	DVD/4000-OVRFLW OFF	3A149720
OCBB 0 3131		DC	-	/3131	ERR ID	3A149730
OCBC 0 4400 OFC4	J800	BSI	Ł	F005	CK LOCK DN ERRDR	3A149740
OCBE 0 70F5		MDX		B800	LDDP	3A149750
	****	****	***	******	*******	3A149760
OCBF 0 2000	B802	LDS		0	SET C AND DF OFF	3A149770
OCCO O C82B		LDD		NBOC	LD A#/C000 Q#/0000	3A149780
OCC1 0 A830		Đ		N812	D /8000	3A149790
OCC2 0 4CO1 OCC7 OCC4 0 4400 OF69		BSC	L	J802,0	BR ON DF	3A149800
0CC4 0 4400 0F69 0CC6 0 3132		BS I DC	L	F000 /3132	DYD/8000-DVRFLW OFF ERR ID	3A149810
OCC7 0 4400 OFC4	J802	BSI	L	F005	CHECK LDDP SWITCH	3A149820 3A149830
OCC9 0 70F5	•002	MDX	-	B802	LOOP	3A149840
	****		***		*******	3A149850
OCCA 0 2000	8804	LDS		0	SET C AND DF DFF	3A149860
OCCB O C822		LDD		NBOE	LD A#/0000 Q#/FFFF	3A149870
OCCC 0 A81A		D		N807	D /0001	3A149880
OCCD 0 4C01 OCD2		BSC	L	J804 • D	BR ON DF	34149890
OCCF 0 4400 0F69		BSI	L	F000	DVD/0001-OVRFLW OFF	3A149900
0C01 0 3133		DC		/3133	ERR ID	3A149910
OCD2 0 4400 OFC4	J804	BSI	L		CK LDCK ON ERROR	3 <b>A149</b> 920
0C04 0 70F5		MDX	***	B 8 0 4	LODP	3A149930
OCD5 0 2000	8806	LDS		0	SET C AND DF DFF	3 <b>A149940</b> 3 <b>A1499</b> 50
OCD6 O C819	5000	LDD		N810	LD A#/FFFF Q#/7FFF	3A149960
OCD7 0 A80F		0		N807	D /0001	3A149970
OCD8 0 4C01 OCDD		BSC	L	J806, D	BR ON OF	3A149980
OCDA 0 4400 0F69		BSI	Ĺ	F000	DVD/0001-OVRFLW OFF	3A149990
OCOC 0 3134		DC		/3134	ERR ID	3A150000
OCDD 0 4400 OFC4	J806	BSI	L	F005	CK LOCK ON ERROR	3A150010
OCOF 0 70F5		MOX		8806	LODP	3A150020
OCEO 0 7023		MOX		B807	EXIT TO NEXT ROUTINE	3 <b>A1500</b> 30
OCE1 0 0000	N800	DC	_	/0000	STORAGE	3A150040
OCE2 0000	N003	BSS	E	// 000		3A150050
OCE2 0 4000 OCE3 0 7FFF	N802	OC DC		/4000 /7FFF		3A150060
OCE4 0 1C71	NB04	0C		/1071		3A150070 3A150080
OCES O BBE3	11004	DC		/8BE3		3A150090
OCE6 0 0000	N806	OC.		/0000		3A150100
OCE7 0 0001	N807	OC		/0001		3A150110
OCE8 0 4000	N808	O C		/4000		3A150120
OCE9 0 0000		OC.		/0000		3A150130
OCEA 0 A000	NBOA	OC.		/A000		3A150140
OCEB 0 0000		0C		/0000		3A150150
OCEC 0 C000	NBOC	DC		/C000		3A150160
OCEO O 0000 OCEE O 0000	NBOE	00		/0000		3A150170
OCEF O FFFF	N80E N80F	0 C		/0000 /EEEE		3A150180
OCFO O FFFF	N810	0C		/FFFF /FFFF		3A150190 3A150200
OCF1 0 7FFF	N311	OC.		/7FFF		3A150210
OCF2 0 8000	N812	00		/8000		3A150220
OCF3 0 5555	N813	oc		/5555		3A150230
OCF4 0 20AA	N816	0C		/20AA		3A150240
OCF5 0 C000	N817	0C		/C000		3A150250
OCF6 0 6100	N818	OC		/6100		3A150260
OCF7 0 0000	4.4.	DC		/0000		3A150270
OCF8 0 8000	NB19	00		/8000		3A150280
OCF9 0 0000 OCFA 0 0002	N 8 3 0	00		/0000		3A150290
OCFB 0 0000	N820 N821	0C 0C		/0002 0		3 <b>A</b> 150300 3 <b>A</b> 150310
OCFC 0 2001	4021	<b>0</b> C		/2001		3A150320
0CFO 0 4000		CC		/4000		3A150330

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OCFE O COOO		DC		/C000		3A150340
0000 0000		855	E	0		3A150350
ODOO O FFFF	N823	DC.		/FFFF		3A150360
0001 0 FFFF		OC		/FFFF	(	3A150370
0002 0 0000	N824	DC		0	STORAGE	3A150380
ODO3 O 0000		OC.		0	STORAGE	3A150390
~	****	****	***	******	******	3A150400
*********			***	*****	*******	3A150420
CORE DATA DR	*LA-	DPER-			A DEMANUE TORREDA AT RICHT	
ADDR INSTRUCTION	*BEL	MCITA	FT	OPERANDS	& REMARKS ID&SEQ# AT RIGHT	3A150440
			***		SET C AND OF OFF	3A150450
0D04 0 2000	8807	LDS		0	LD A#/6100 Q#/0000	3A150460
0005 0 C8F0		F00		N818 N817	D /C000	3A150470
0D06 0 A8EE		D BSC	L	J808,0	8R DN OF	3A150480
0D07 0 4C01 0D0C		851	ĭ	F000		3A150490
0009 0 4400 0F69		DC	L	/316A	ERR 10	3A150500
0008 0 316A 000C 0 4400 0FC4	J808		L	F005	CK LOCK ON ERROR	3A150510
	3000	MDX	-	8807	LOOP	3A150520
ODOE 0 70F5	****	****	***	*******	******	3A150530
ODOF 0 2000	8808	LOS		0	SET C AND OF OFF	3A150540
OD10 0 C8E7	••••	LOD		N819	LD A#/8000 Q#/0000	3A150550
ODII O ABDD		D		NBOF	O /FFFF	3A150560
OD12 0 4CO1 OD17		BSC	L		BR ON OF	3A150570
0D14 0 4400 0F69		851	Ł	F000	OVERFLOW OFF	3A150580
0D16 0 3168		DC		/3168	ERR ID	3A150590
0D17 0 4400 OFC4	J809	851	L	F005	CK LOCK ON ERROR	3A150600
0D19 0 70F5		MDX		8808	LOOP	3A150610
	****	*****	***	*****	*****	3A150620
ODIA 0 2000	8809	LOS		0	SET C AND OF OFF	3A150630
OD18 0 C8E4		FDD		NB23	LD A#/FFFF Q#/FFFF	3A150640
ODIC O ASDD		0		N820	0 /0002	3A150650
ODID 0 4C01 0D20		8 S C	L	J815,0	BR ON OF	3A150660
OD1F 0 7003		MDX		J810	OVERFLOW OFF	3A150670 3A150680
OD20 0 4400 0F69	J815	851	L	F000	700 10	3A150690
OD22 0 316C		DC		/316C	ERR ID	3A150700
OD23 0 4400 OFC4	J810		L	F005	CK LOCK ON ERROR	3A150710
0025 0 70F4		MDX		8809	LOOP *****************	3A150720
						3A150730
		*****	***	*****	*******	3A150740
	*					3A150750
	•			260.00	TIPLY-DIV TEST \$88100	3A150760
	•			AU	[11F[1-D]4 1231 40010-	3A150770
	•					3A150780
	•			TH	IS TEST TAKES 4 NUMBERS	3A150790
	*				000, /C000, /4000 ANO	3A150800
	*				001 AND MULTIPLIES AND	3A150810
	*			וות	VIDES THE RESULT OF THE	3A150820
	*				LTIPLICATION BY ALL	3A150830
	*				LUES OF NEGATIVE AND	3A150840
	*			PO	SITIVE NUMBERS. THIS	3A150850
	*			PR	OCEDURE IS REPETED	3A150860
	*			UN	TIL ALL FOUR NUMBERS	3A150870
	*			HA	VE BEEN USED.	3A150880
	*					3A150890
	•			STEP1 S		3A150900
	*				IVISOR TO LARGEST NEG.	3A150910
	*			N .	UMBER.	3A150920 3A150930
	*				AKE ONE OF FOUR NUMBERS	3A150930
	*				ND USE IT AS THE	3A150950
	*				ULTIPLIER	3A150960
	<b>*</b>				ULTIPLY TORE RESULTS IN SYMBOLIC	3A150970
	*				OCATION N824	3A150980
	*			STEP5 0		3A150990
	*				HECK RESULT	3A151000
	-				NCREMENT MULTIPLICAND	3A151010
	~			31277	The state of the s	

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** STEPS GO TO STEP 2 IF ALL 3A151030 ** VALUES HAVE NOT BEEN 3A151050 ** USED AS MULTIPLICANDS AND 3A151050 ** STEP9 SET UP FOR NEXT ONE OF 4 3A151070 ** MULTIPLIERS. 3A151070 ** MUSED. 3A1511070 ** MUSED. 3A1511070 ** AND MERCE MORE DECATIONS ARE AVAILABLE FOR 3A1511070 ** MANUAL INSERTION OF ANY VALUE DESIRED. 3A1511070 ** AND NØ21C3.** ** CAUTION ** DO NOT CHANGE THE MORD AT LABEL 3A151270 ** DO NOT CHANGE THE MORD AT LABEL 3A151270 ** AND NØ21C3.** ** LOCATION NØ22 X 7000000. 3A1512270 ** AND NØ21C3.** ** COUNTY OF ANY VALUE DESIRED. 3A151270 ** AND NØ21C3.** ** LOCATION NØ22 X 7000000. 3A1512270 ** AND NØ21C3.** ** LOCATION NØ22 X 7000000. 3A1512270 ** AND NØ21C3.** ** LOCATION NØ22 X 7000000. 3A1512270 ** AND NØ21C3.** ** AND NØ21C3		*			AND D	IVISOR BY 1.	3A151020
** VALUES HAVE NOT BEEN 3A1510-00 OIVISORS. 3A15110-00 OIVISORS. 3A15120-00 OIVISORS. 3A							3A151030
STEP10 GO 170 STEP 2 IF ALL 4							3A151040
**************************************		*			USED	AS MULTIPLICANDS AND	
### AND PER		*					
STEP10 00 TO STEP 2 IF ALL 4 3A151100		*					
NUMBERS MAVE NOT BEEN   3A151100   3A151110   3A151110   3A151120   3A15112		*					
# NOTE THREE WORD LOCATIONS ARE AVAILABLE FOR 3A151120 # NOTE THREE WORD LOCATIONS ARE AVAILABLE FOR 3A151130 # HANNAL INSERTIDH OF ANY VALUE DESIRED. # CAUTION ** DO NOT CHANGE THE WORD AT LABEL 3A151180 # CAUTION ** DO NOT CHANGE THE WORD AT LABEL 3A151180 # LOCATION N822 X /8000m. 3A151200 3A151200 3A151200 3A1512100 3A1512200 3A151220							
**************************************							
## NOTE THREE MORD LOCATIONS ARE AVAILABLE FOR 3A151140 ## MANUAL INSERTION OF ANY VALUE DESIRED. ## MANUAL INSERTION OF ANY VALUE DESIRED. ## AND M82163. ## CAUTION ** DO NOT CHANGE THE NORD AT LABEL 3A151160 ## LOCATION N822 % 78000m. ## LA- OPER-					USEC	0•	
# NOTE — THREE NORD LOCATIONS ARE AVAILABLE FOR MANUAL INSERTION OF ANY VALUE DESIRED. # THEY ARE AT LABEL ADDRESS NB2ICI, NB2IC2, 3a151100							
**************************************							
## MANUAL INSERTION OF ANY VALUE DESIRED. 3A151100 ## THEY ARE AT LABEL ADDRESS M82161, M82162, 3A151100 ## CAUTION ** DO NOT CHANGE THE WORD AT LABEL 3A151200 3A151		# NOT	·E	TUB	EE WOOD 100	CATTONS ARE AVAILARIE FOR	
* THEY ARE AT LABEL ADDRESS N821£1, N821£2, 3A151170 * AND N821£3.* * CAUTION ** DO NOT CHANGE THE NORD AT LABEL * A1512100 * A1512100 * A1512100 * A1512100 * A1512100 * A1512100 * A1512200 * A15122	•	_		MAN	ILAI THEFRT	IDN OF ANY VALUE DESIRED.	
* CAUTION ** DO NOT CHANGE THE NORD AT LABEL 3A151180   ** CAUTION ** DO NOT CHANGE THE NORD AT LABEL 3A151200   3A151220    3A151220   3A151220   3A151220   3A151220   3A151220     3A151220    3A151220     3A151220     3A151220     3A151220     3A151220     3A151220     3A151220     3A151220     3A151220     3A151220     3A151220     3A151220     3A151220     3A151220     3A151220     3A151220				THE	Y ARE AT 1	ARFI ADDRESS N821&1. N821&2	
* CAUTION ** DO NOT CHANGE THE NORD AT LABEL							3A151180
**************************************		*					3A151190
**************************************		* CAU	TION	**	DO NOT CH	ANGE THE WORD AT LABEL	
CORE DATA DR #LA - OPER- ANDDR INSTRUCTION #BEL ATION FT DPERANDS & REMARKS IDESEOW AT RIGHT 3A151250  0260 0 6104		*		•	LOCATION	N822 \$ /800C¤.	_
CDRE		*					
ABOR INSTRUCTION *BEL ATION FT DPERANDS & REMARKS IDESEOW AT RIGHT 3A151250  0260 0 6104 B810 LDX 1 4 LO XR 1 WITH /0004 3A151270  0270 0 CC00 0FD2 J814 XID L F003 CK 8YPASS MPY/DIV SW 3A151270  0029 0 CC400 0F05 LD L Z000 LO SWITCH SETTINGS 3A151270  0028 0 1808 SRA 8 SHIFT 8IT 7 TO BIT PDS 15 3A151300  002C 0 4804 BSC E SK IF 8IT 1590 3A151320  002C 0 7028 MDX A840 SW BIT 6 ON X8YPASS 3A151320  002F 0 CC079 LD N819 CDNST /8000 XA151330  002F 0 DOC8 STO N821 STORE /8000 AT N821 3A151330  0030 0 COCA J811 LO N821 LD CXN821 /8000 3A151330  0031 0 A500 OCF8 STO N824 STORE A AND Q 3A151330  0033 0 ORCE STO N824 STORE A AND Q 3A151330  0034 0 2000 LOS O SET C ANO OF OFF 3A151300  0036 0 F500 OCF8 EOR L1 N821 ZERO WITH /8000 3A151390  0036 0 F500 OCF8 EOR L1 N821 ZERO WITH /8000 3A151390  0036 0 4C18 0D3D 8SC L J812-6- BRANCH ON ZERO 3A151404  0036 0 70F0 MDX J811 LDOP ON MPL/DIV 3A151404  0037 0 70F0 MDX J811 LDOP ON MPL/DIV 3A151406  0041 0 4C18 0D46 8SC L J813-6- BRANCH ON ZERO 3A151406  0045 0 3166 OCF9 SIC MDX J811 LDOP ON MPL/DIV 3A151406  0046 0 4000 0F69 SSI L F000 CREATION 3A151406  0046 0 4000 0F69 SSI L F000 CREATION 3A151406  0046 0 4000 0F69 SSI L F000 CREATION 3A151406  0040 0 1800 RTE 16 NOW AR/0000 QR/0000 3A151406  0041 0 4C18 0D46 8SC L J813-6- BRANCH ON ZERO 3A151406  0040 0 1800 RTE 16 NOW AR/0000 QR/0000 3A151406  0040 0 1800 RTE 16 NOW AR/0000 QR/0000 3A151406  0040 0 1800 RTE 16 NOW AR/0000 QR/0000 3A151406  0040 0 1800 RTE 16 NOW AR/0000 QR/0000 3A151406  0040 0 1800 RTE 16 NOW AR/0000 QR/0000 3A151406  0040 0 1800 RTE 16 NOW AR/0000 QR/0000 3A151406  0040 0 1800 RTE 16 NOW AR/0000 QR/0000 3A151406  0040 0 1800 RTE 16 NOW AR/0000 QR/0000 3A151406  0050 0 70F0 MDX J811 LDOP ON MPL/DIV 3A151506  0050 0 70F0 MDX J811 LDOP TO CK SWITCHES 3A151506  0050 0 70F0 MDX J814 LDOP TO CK SWITCHES 3A151506  0050 0 70F0 MDX J814 LDOP TO CK SWITCHES 3A151506  0050 0 70FF MDX J814 LDOP TO CK SWITCHES 3A151506  0050 0 70FF MDX J814 LDDP TO CK SWITCHES 3A151506  0050 0 70FF MDX J814 LDDP TO CK SWITCHES 3A151606	*******	*****	*****	***	*******	**********	3A151230
D22	CDRE DATA DR	*LA- C	OPER-			TOSSECH AT OTSHIT	
0026 0 6104 8810 LDX 1 4 LO XR 1 MITH 70004 3A151270 0029 0 C000 0FD2 J814 XIO L F003 CK 8PPASS MPY/DIV SM 3A151280 0028 0 1808 SRA 8 SHITE BIT 7 TO BIT PDS 15 3A151300 0026 0 4804 885C E SK IF BIT 1590 3A151300 0026 0 4804 885C E SK IF BIT 1590 3A151300 0026 0 7028 MDX A840 SW BIT 6 ON X8PPASSN 3A151310 002F 0 DOC8 STO N821 STORE 78000 AT N821 3A151300 002F 0 DOC8 STO N821 STORE 78000 AT N821 3A151340 0030 0 COCA J811 LO N821 LD CXM821M 78000 3A151330 0036 STORE 78000 AT N821 STORE 78000 AT N821 3A151340 0033 0 08CE STO N824 STORE A AND Q 3A151350 0033 0 08CE STO N824 STORE A AND G 3A151350 0033 0 08CE STO N821 D 78000 3A151350 00350 0 A8C5 O N821 D 78000 3A151350 00350 0 A8C5 O N821 D 78000 3A151350 00360 0 F500 0CF8 EOR L1 N821 ZERO MITH 78000 3A151340 00360 0 F500 0CF8 STO L J812, £- BRANCH ON ZERO 3A151412 0036 O 7500 0F69 STI L F000 ACC NOT ZERO 3A15142 0036 O 7500 0F69 STI L F000 ACC NOT ZERO 3A15142 0036 O 7500 0F69 STI L F000 ACC NOT ZERO 3A15142 0036 O 7500 0F69 STI L F000 CK LOCK ON ERROR 3A151442 0036 O 7500 0F69 STI L F000 CK LOCK ON ERROR 3A151442 0036 O 7669 STI L F000 CK LOCK ON ERROR 3A151442 0036 O 7669 STI L F000 CK LOCK ON ERROR 3A151442 0036 O 7669 STI L F000 CK LOCK ON ERROR 3A151442 0036 O 7067 MDX J811 L LODP ON MPL/DIV 3A151456 0046 O 7400 0F98 J813 BT L F000 CK LOCK ON ERROR 3A151444 0046 O 7400 0F98 J813 BT L F000 CK LOCK ON ERROR 3A15156 0046 O 7400 0F69 STO N821 L LD 78000 3A151550 A315156 0055 O 7000 ACC NOT ZERO 3A15156 AND	ADDR INSTRUCTION	*BEL A	MOITA	FT	DPERANDS &	REMARKS ID&SEQ# AT KIGHT	3A151250
0027 0 0C00 0FD2						**************************************	34151270
0029 0 C400 0F05	•			_	•		
0028 0 1808		7814					
002C 0 4804 002D 0 7028 002C 0 702C 002C 0				L	-	SHIFT AIT 7 TO BIT PDS 15	
DD2D   0 7028					-		3A151310
DD2E 0 COC9							3A151320
002F 0 DOC8							3A151330
0D30 0 C0CA						STORE /8000 AT N821	3A151340
DB31		J811			N821	LD CIN82ID /8000	3A151350
0034 0 2000				Ll	N821		
0D35 0 A8C5 0D36 0 F500 0CF8 0D36 0 F500 0CF8 0D38 0 4C18 0D3D 0B3C 0 K18 0D3D	0033 0 08CE		STO		NB24		
0035 0 A8C5 0 M821 D 78000 3A151400 0036 0 F500 0CF8 EOR L1 N821 ZERO NITH /8000 3A151400 0038 0 4C18 0D3D 8SC L J812.£- BRANCH ON ZERO 3A151420 003A 0 4400 0F69 BSI L F000 ACC NOT ZERO 3A151420 003A 0 4400 0F69 BSI L F00E CK LOCK ON ERROR 3A151430 003F 0 70F0 MDX J811 LDDP ON MPL/DIV 3A151460 0041 0 4C18 0D46 BSC L J813.£- BRANCH ON ZERO 3A151440 0041 0 4C18 0D46 BSC L J813.£- BRANCH ON ZERO 3A151440 0043 0 4400 0F69 BSI L F000 REMAINOER IN Q REG 3A151440 0045 0 316E DC /316E ERR IO 3A151460 0046 0 4400 0F98 J813 BSI L F00E CK LOCK ON ERROR 3A151490 0048 0 70E7 MDX J811 LOOP ON MPL/DIV 3A151500 0048 0 70E7 MDX J811 LOOP ON MPL/DIV 3A151510 0040 0 00AF AN807 AOD ONE 3A151520 0040 0 00AF STO N821 LD /8000 3A151540 0046 0 4C20 0030 BSC L J816.£- BRANCH ON ZERO 3A151540 0046 0 F0A9 DOF BSC L J816.£- BRANCH ON ZERO 3A151540 0046 0 FOA9 EOR N819 004F 0 4C20 0030 BSC L J816.£- BRANCH ON ZERO 3A151560 0055 0 70D0 MDX J814 LODP TO CK SWITCHES 3A151560 0055 0 70D0 MDX J814 LODP TO CK SWITCHES 3A15160 0055 0 70D0 BSC L J811.Z BR IF NOT ZERO 3A15160 0055 0 70D0 BSC L J811.Z BR IF NOT ZERO 3A15160 0056 0 6100 A840 LOX 1 0 LD XR 1 WITH ZERO 3A15160 0057 0 71FF MDX 1-1 SK IF SIGN CHANGES 3A15166	0D34 0 2000		LOS		-		
0038 0 4-018 0D3D 0 8-01			-				
0038 0 4400 0F69	0D36 0 F500 OCF8			_		<del></del>	
003A 0 4400 0F98					-	OKANON ON ELIN	
003C 0 3160 003D 0 4400 0F98				Ł			
0035 0 7050							
0D40 0 1800 RTE 16 NOW A#/0000 Q#/0000 3A151466 0041 0 4C18 0D46 8SC L J813,6 BRANCH ON ZERO 3A151476 0D43 0 4400 0F69 BSI L FOOD REMAINOER IN Q REG 3A151496 0045 0 316E DC /316E ERR IO 3A151496 0048 0 70E7 MDX J811 LOOP ON MPL/DIV 3A151510 0D49 0 C081 J816 LD M821 LD /8000 3A151520 0D44 0 809C STO M821 0048 0 00AF SSC L J816,6 BRANCH ON ZERO 3A151560 0048 0 00AF BSC L J816,6 BRANCH ON ZERO 3A151576 0040 0 4C18 0D49 BSC L J811,Z BR IF NOT ZERO 3A151576 0051 0 71FF MDX J814 LODP TO CK SWITCHES 3A151576 0052 0 70D4 MDX J814 LODP TO CK SWITCHES 3A151560 0055 0 70D0 MDX 8810 LOOP 3A15160 0055 0 70D0 A840 LOX 1 0 LD XR 1 WITH ZERO 3A151660 0057 0 71FF MOX 1 -1 SK IF SIGN CHANGES 3A15166		3812		L		LDOP ON MPL/DIV	3A151450
0041 0 4C18 0D46 8SC L J813,6			_			NOW A#/0000 Q#/0000	3A151460
0043 0 4400 0F69				1	_		3A151470
0045 0 316E						REMAINOER IN Q REG	3A151480
0D46 0 4400 0F98				_	/316E		3A151490
0048 0 70E7		J813		L			
0049 0 C081					J811		
0044 0 809C		J816	ŁD		N821		
0046 0 00AF 004C 0 4C18 0D49 004F 0 4C20 0030 0051 0 71FF 0052 0 70D4 0053 0 4400 0FC4 0055 0 70D0  0056 0 6100 0057 0 71FF 0057 0 71FF 0057 0 71FF 0057 0 71FF 0058 0 6100 0057 0 71FF 0057 0 71FF 0058 0 6100 0059 0 6100 0059 0 70FF 0059 0 6100 0059 0 70FF 0059 0 70FF 0059 0 6100 0059 0 70FF 0059 0 6100 0059 0 70FF 0059 0 70FF 0059 0 6100 0059 0 70FF 0059 0 6100 0059 0 70FF 0059 0 70FF 0059 0 6100 0059 0 70FF 0059 0 6100 0059 0 70FF 0059 0 70FF 0059 0 6100 0059 0 70FF 0059 0 70FF 0059 0 6100 0059 0 70FF 0059 0 70FF 0059 0 6100 0059 0 70FF 0059 0 6100 0059 0 70FF 0059 0 70FF 0059 0 6100 0059 0 70FF 0059 0 70FF 0059 0 6100 0059 0 70FF 0059 0 6100 0059 0 70FF 00	0D4A 0 809C					AOD ONE	
004C 0 4C18 0D49	0048 0 00AF					00 MCH 0M 7500	
004E 0 F0A9 004F 0 4C20 0030 0051 0 71FF  MDX 1 -1  MDX 8810  LOOP  AB40 LOOP  TEST OF MDX OPERATION 3A151630  **  **  **  **  **  **  **  **  **	004C 0 4C18 0D49			L		SKANLH UN ZERU	
0051 0 71FF						DD IF MOT 7FRO	3A151570
0051 0 71FF 0D52 0 70D4 0053 0 4400 0FC4 0055 0 70D0  MDX						DU 11 HOI TEND	3A151580
0053 0 4400 0FC4 8SI L F005 CK LOCK ON ERROR 3A15160 0055 0 70D0				ī		INDP TO CK SWITCHES	3A151590
0055 0 7000	0052 0 7004			1			3A151600
0055 0 7000 ****************************			Mnx	_	8810	LOOP	3A151610
* TEST OF MDX OPERATION 3A15165/  * TEST OF MDX OPERATION 3A15166/  * 3A15166/  **********************************	0022 0 1000	****	****	***	*******	******	3A151620
# TEST OF MDX OPERATION 3A15164  # 3A15165  #################################							3A151630
* 3A15165 ************************************					TEST	OF MDX OPERATION	3A151640
0D56 0 6100 A840 LOX 1 0 LD XR 1 WITH ZERO 3A15167 0D57 0 7IFF MOX 1 -1 SK IF SIGN CHANGES 3A15168		*					3A151650
0D56 0 6100 A640 LOX 1 -1 SK IF SIGN CHANGES 3A15168 0D57 0 7IFF MOX 1 -1 SK IF SIGN CHANGES 3A15169		****	****	***	*******	******	
0D57 0 71FF MOX 1 -1 SK IF SIGN CHANGES SALISION	0D56 0 6100	A840	LOX	_			
			_	_	-1		
			WAIT	r		MAX FAIFFA IN 2KIN	38131030

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415490 415490C 419643 420403 420403A

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0059	0	6960			STX	1	N840		3A151700
OD5A	-				LO		N840		3A151710
0058					E OR		N841	ZERO ACC WITH /FFFF	3A151720
0D5C					BSC	L	G840,&-		3A151730
			0F69		BSI	L	F000	MOX XR 1 FAILEO	3A151740
0060	0	3135			OC		/3135	EKK ID	3A151750
		4400	OFC4	G840	BSI	L	F005	on coon on cities	3A151760
0063	0	70F2			MDX		A840		3A151770
						***			3A151780 3A151790
0D64	0	CO 68		A842	LO.		N845	20 110 1110 1110 111	3A151800
	_			*	MO.4		NO.4.2. 1		3A151810
		7401	0009		MOX	L	N842,1	BK IU LABEL ADOK NOTE 41	3A151820
0067			0040		E DR BSC	L	N845	BRANCH ON ZERO	3A151830
		4400	0D6D		8 S 1	Ĺ	H842,&- F000	ACC OISTROYED AFTER MDX	3A151B40
		316F	0009		00	_	/316F	ERR 1D	3A151850
	_	C058		H842			N842	LO A#/3000	3A151860
		FO5F		11072	EOR		N846	ACC NOW /0001	3A151870
			0074			L		BRANCH ON ZERO ADD TO MEM FAILEO	3A151880
			0F69		7.7	ī		ADD TO MEM FAILED	3A151890
		3136			OC.	_	/3136	ERR 10	3A151900
		C056		G842	_		N843	LO /3000	3A151910
		D053			STO		N842		34151920
			OFC4		BS1	L	F005	CK LOCK ON ERROR	3A151930
0D78	0	70E8			MOX		A842	LOOP	3A151940
								*****	3A151950
****	**	****	******	*****	****	***	******	**********	
CORE		DAT	A OR	*LA-	OPER-				3A151970
AOOR		INS	TRUCTION	*BEL	ATION	FT	OPERANOS &	REMARKS 1DESEQ# AT RIGHT	3A151980
								******	
	-		FFFE	A844			-2	LD XR 2 W1TH -2	3A152000
			0001		MOX	_	1	AOD ONE TO XR 2	3A152010
	_	6449			STX	2	N840	STORE XR 2	3A152020
	-	C048	1		LO		N840	LD WITH XR 2 VALUE ZERO ACC WITH /FFFF	3A152030
		F048	,		EOR		N841		3A152040 3A152050
			0D85		BSC			BRANCH ON ZERO MOX LONG XR 2 FAILEO	3A152060
			0F69		BS1	L		ERR 10	3A152070
	_	3137		C0//	OC .		/3137 F005	CK LOCK ON ERROR	3A152080
ひひゅつ	U		OFC4	G844	8S1 MDX	L		LOOP	
	•				DU A		A844		
0D87	0	70F1		****		***	*******	******	3A152090
					****			**************************************	3A152100
0D88	0	63FF		***** A846	***** LOX	3	-1	LO XR 3 WITH -1	3A152100 3A152110
0D88 0D89	0	63FF 7301			LOX MDX	3	-1 1	LO XR 3 WITH -1 ADD UNE TO XR 3	3A152100 3A152110 3A152120
0D88 0D89 0D8A	0	63FF 7301 7001			LOX MDX MDX	3	-1 1 G846	LO XR 3 WITH -1	3A152100 3A152110 3A152120 3A152130
OD88 OD89 OD8A OD88	0 0 0	63FF 7301 7001 7003		A846	LOX MDX MDX MDX MOX	3	-1 1 G846 H846	LO XR 3 W1TH -1 AOD UNE TO XR 3 O1D NOT SK ON MDX	3A152100 3A152110 3A152120
OD88 OD89 OD8A OD88 OD8C	0 0 0	63FF 7301 7001 7003 4400	0F6 <del>9</del>	A846	LOX MDX MDX MDX MOX BS1	3	-1 1 G846 H846 F000	LO XR 3 M1TH -1 AOD UNE TO XR 3 O1D NOT SK ON MDX XR 3 NO SK1P AT 0	3A152100 3A152110 3A152120 3A152130 3A152140
0D88 0D89 0D8A 0D88 0D8C	0 0 0 0	63FF 7301 7001 7003 4400 3138	0F69	<b>A84</b> 6 G846	LOX MDX MDX MDX MOX BS1 DC	3	-1 1 G846 H846 F000 /3138	LO XR 3 W1TH -1 AOD UNE TO XR 3 O1D NOT SK ON MDX	3A152100 3A152110 3A152120 3A152120 3A152130 3A152140 3A152150
OD88 OD89 OD88 OD86 OD86 OD86	0 0 0 0	63FF 7301 7001 7003 4400 3138 4400	0F69 0FC4	A846	LOX MDX MDX MDX MOX BS1 DC	3 3 L	-1 1 G846 H846 F000 /3138	LO XR 3 W1TH -1 AOO UNE TO XR 3 OIO NOT SK ON MDX XR 3 NO SKIP AT O ERR 10	3A152100 3A152110 3A152120 3A152120 3A152130 3A152140 3A152150 3A152160
OD88 OD89 OD88 OD86 OD86 OD86	0 0 0 0	63FF 7301 7001 7003 4400 3138	0F69 0FC4	<b>G846</b> H846	LOX MDX MDX MOX BS1 DC BS1 MDX	3 3 L	-1 1 G846 H846 F000 /3138 F005 A846	LO XR 3 W1TH -1 AOO UNE TO XR 3 O10 NOT SK ON MDX  XR 3 NO SK1P AT 0 ERR 10 CK LOCK ON ERROR LOOP	3A152100 3A152110 3A152120 3A152130 3A152140 3A152150 3A152160 3A152170 3A152170 3A152180 3A152190
0D88 0D89 0D8A 0D88 0D8C 008E 0D8F 0D91	0 0 0 0 0 0	63FF 7301 7001 7003 4400 3138 4400	0F69 0FC4	<b>G846</b> H846	LOX MDX MDX MOX BS1 DC BS1 MDX	3 1 L	-1 1 G846 H846 F000 /3138 F005 A846	LO XR 3 W1TH -1 A00 UNE TO XR 3 010 NOT SK ON MDX  XR 3 NO SK1P AT 0 ERR 10 CK LOCK ON ERROR LOOP **********************************	3A152100 3A152110 3A152120 3A152130 3A152140 3A152150 3A152160 3A152170 3A152170 3A152190 3A152190
0D88 0D89 0D8A 0D88 0D8C 008E 0D8F 0D91	0 0 0 0 0 0	63FF 7301 7001 7003 4400 3138 4400 70F6	0F69 0FC4	G846 H846	LOX MDX MDX MOX BS1 DC BS1 MDX	3 L L ***	-1 1 6846 H846 F000 /3138 F005 A846	LO XR 3 W1TH -1 A00 UNE TO XR 3 010 NOT SK ON MDX  XR 3 NO SK1P AT 0 ERR 10 CK LOCK ON ERROR LOOP **********************************	3A152100 3A152110 3A152120 3A152130 3A152140 3A152150 3A152160 3A152170 3A152180 3A152190 3A152190 3A152200 3A152210
OD88 OD89 OD88 OD86 OD86 OD86 OD91 OD92	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	63FF 7301 7001 7003 4400 3138 4400 70F6	0F69 0FC4	G846 H846	LOX MDX MDX MOX BS1 DC BS1 MDX	3 L L ***	-1 1 6846 H846 F000 /3138 F005 A846	LO XR 3 W1TH -1 AOO UNE TO XR 3 O10 NOT SK ON MDX  XR 3 NO SK1P AT 0 ERR 10 CK LOCK ON ERROR LOOP	3A152100 3A152110 3A152120 3A152130 3A152140 3A152150 3A152150 3A152170 3A152170 3A152200 3A152200 3A152200 3A152210 3A152220
OD88 OD89 OD8A OD86 OD8C OO8E OD8F OD91 OD92 OD93	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	63FF 7301 7001 7003 4400 3138 4400 70F6	0F69 0FC4	G846 H846	LOX MDX MDX MOX BS1 DC BS1 MDX ***********************************	3 L L ***	-1 1 G846 H846 F000 /3138 F005 A846 ************************************	LO XR 3 W1TH -1 AOO UNE TO XR 3 O10 NOT SK ON MDX  XR 3 NO SK1P AT 0 ERR 10 CK LOCK ON ERROR LOOP **********************************	3A152100 3A152110 3A152120 3A152130 3A152140 3A152150 3A152150 3A152170 3A152180 3A152190 3A152200 3A152220 3A152220 3A152220
OD88 OD89 OD8A OD88 OD8C OO8E OD8F OD91 OD92 OD93 OO94	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	63FF 7301 7001 7003 4400 3138 4400 70F6 61FF 7104 7001	0F69 0FC4	G846 H846	LOX MDX MDX MOX BS1 DC BS1 MDX HDX HDX HDX HDX HDX HDX HOX	3 L L ***	-1 1 G846 H846 F000 /3138 F005 A846 ************************************	LO XR 3 W1TH -1 AOO UNE TO XR 3 O10 NOT SK ON MDX  XR 3 NO SK1P AT 0 ERR 10 CK LOCK ON ERROR LOOP **********************************	3A152100 3A152110 3A152120 3A152130 3A152140 3A152150 3A152150 3A152170 3A152170 3A152180 3A152190 3A152200 3A152200 3A152220 3A152220 3A152220 3A152220
OD88 OD89 OD8A OD88 OD8C OO8E OD8F OD91 OD92 OD93 OO94 OO95	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	63FF 7301 7001 7003 4400 3138 4400 70F6 61FF 7104 7001	0F69 0FC4 0F69	G846 H846 ***** A848	LOX MDX MDX MOX BS1 DC BS1 MDX ****** LDX MDX MDX MDX MDX MOX MDX	3 L L ***	-1 1 6846 H846 F000 /3138 F005 A846 ************************************	LO XR 3 W1TH -1 A00 UNE TO XR 3 010 NOT SK ON MDX  XR 3 NO SK1P AT 0 ERR 10 CK LOCK ON ERROR LOOP LOOP LOOP LO XR 1 W1TH -1 ADD 4 TO XR 1 01D NOT SK ON MOX  S1GN CHANGE-NO SKIP ERR 10	3A152100 3A152110 3A152120 3A152130 3A152140 3A152150 3A152160 3A152170 3A152190 3A152190 3A152200 3A152220 3A152220 3A152220 3A152220 3A152220 3A152250
OD88 OD89 OD88 OD88 OD86 OD8F OD91 OD92 OD93 OO95 OD96	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	63FF 7301 7001 7003 4400 3138 4400 70F6 61FF 7104 7001 7003 4400 3139	0F69 0FC4 0F69	G846 H846 *****	LOX MDX MDX MOX BS1 DC BS1 MDX HDX MDX MOX MOX MOX BS1 OC BS1	3 L L ***	-1 1 6846 H846 F000 /3138 F005 A846 ************************************	LO XR 3 W1TH -1 A00 UNE TO XR 3 O10 NOT SK ON MDX  XR 3 NO SK1P AT 0 ERR 10 CK LOCK ON ERROR LODP  ***********************************	3A152100 3A152110 3A152120 3A152140 3A152140 3A152150 3A152160 3A152170 3A152180 3A152190 3A152200 3A152200 3A152220 3A152220 3A152220 3A152220 3A152220 3A152220
OD88 OD89 OD88 OD88 OD86 OD8F OD91 OD92 OD93 OO95 OD96	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	63FF 7301 7001 7003 4400 3138 4400 70F6 61FF 7104 7001 7003 4400 3139	0F69 0FC4 0F69	G846 H846 ****** A848 G848	LOX MDX MDX MDX BS1 DC BS1 MDX ******* LDX MDX MDX BS1 OC BSI MDX	3 3 1 1 1 1	-1 1 G846 H846 F000 /3138 F005 A846 ************************************	LO XR 3 W1TH -1 AOO UNE TO XR 3 O10 NOT SK ON MDX  XR 3 NO SK1P AT O ERR 10 CK LOCK ON ERROR LOOP **********************************	3A152100 3A152110 3A152120 3A152130 3A152140 3A152150 3A152160 3A152170 3A152170 3A152180 3A152200 3A152210 3A152220 3A152220 3A152230 3A152230 3A152250 3A152250 3A152250 3A152250 3A152250
0D88 0D89 0D8A 0D86 0D8F 0D91 0D92 0D93 0094 0095 0D98	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	63FF 7301 7001 7003 4400 3138 4400 70F6 7104 7001 7003 4400 3139 4400 70F6	0F69 0FC4 0F69	G846 H846 ****** A848 G848 H848	LOX MDX MDX MDX BS1 DC BS1 MDX HDX MDX MDX BS1 OC BS1 MDX	3 3 1 1 1 1 1	-1 1 G846 H846 F000 /3138 F005 A846 ************************************	LO XR 3 W1TH -1 AOO UNE TO XR 3 O10 NOT SK ON MDX  XR 3 NO SK1P AT 0 ERR 10 CK LOCK ON ERROR LOOP **********************************	3A152100 3A152110 3A152120 3A152140 3A152140 3A152150 3A152170 3A152170 3A152180 3A152200 3A152200 3A152210 3A152200 3A152220 3A152220 3A152250 3A152250 3A152260 3A152260 3A152260
OD88 OD89 OD88 OD86 OD8F OD91 OD92 OD93 OD95 OD96 OD96 OD98	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	63FF 7301 7001 7003 4400 3138 4400 70F6 7104 7001 7003 4400 3139 4400 70F6	0F69 0FC4 0F69 0FC4	G846 H846 ****** A848 G848 H848	LOX MDX MDX MDX MDX BS1 DC BS1 MDX PPRE LDX MDX BS1 DX MDX BS1 MDX PPRE LDX MDX BS1 DC BS1 MDX BS1 DC BS1 MOX BS1 DC BS1 MOX	3 3 1 1 1 1 1	-1 1 G846 H846 F000 /3138 F005 A846 ************************************	LO XR 3 W1TH -1 AOO UNE TO XR 3 O10 NOT SK ON MDX  XR 3 NO SK1P AT O ERR 10 CK LOCK ON ERROR LOOP **********************************	3A152100 3A152110 3A152120 3A152130 3A152140 3A152150 3A152150 3A152170 3A152180 3A152210 3A152210 3A152220 3A152220 3A152220 3A152220 3A152230 3A152250 3A152250 3A152250 3A152250 3A152250 3A152250 3A152250
OD88 OD89 OD88 OD86 OD86 OD86 OD91 OD92 OD93 OO94 OO96 OD96	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	63FF 7301 7001 7003 4400 3138 4400 70F6 7104 7001 7003 4400 3139 4400 70F6	0F69 0FC4 0F69 0FC4	G846 H846 ****** A848 G848 H848	LDX MDX MDX MDX MOX BS1 DC BS1 MDX MDX MDX MDX MDX MDX MDX MOX MDX MDX LD BS1 BS1 MDX	3 3 1 1 1 1 1 L	-1 1 G846 H846 F000 /3138 F005 A846 ************************************	LO XR 3 W1TH -1 AOO UNE TO XR 3 O10 NOT SK ON MDX  XR 3 NO SK1P AT 0 ERR 10 CK LOCK ON ERROR LOOP **********************************	3A152100 3A152110 3A152120 3A152140 3A152140 3A152150 3A152160 3A152170 3A152190 3A152190 3A152210 3A152220 3A152220 3A152220 3A152250 3A152250 3A152250 3A152260 3A152280 3A152280 3A152280 3A152290 3A152290 3A152290
OD88 OD89 OD8A OD88 OD8C OO8E OD91 OD92 OD93 OO95 OD96 OD96 OD96 OD96	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	63FF 7301 7003 4400 3138 4400 70F6 7104 7001 7001 7001 7001 7001 7000 3139 4400 70F6	0F69 0F64 0F69 0F64	G846 H846 ****** A848 G848 H848	LOX MDX MDX MOX BS1 DC BS1 DC BS1 MDX MDX MDX MDX BS1 MOX BS1 MOX BS1 MOX BS1 MOX MOX	3 3 1 1 1 1 1 1 1 1	-1 1 G846 H846 F000 /3138 F005 A846 ************************************	LO XR 3 W1TH -1 A00 UNE TO XR 3 O10 NOT SK ON MDX  XR 3 NO SK1P AT 0 ERR 10 CK LOCK ON ERROR LOOP  *********************************	3A152100 3A152110 3A152120 3A152140 3A152140 3A152150 3A152160 3A152170 3A152180 3A152190 3A152200 3A152210 3A152220 3A152220 3A152220 3A152220 3A152220 3A152220 3A152230 3A152230 3A152230
OD88 OD89 OD8A OD86 OD8F OD91 OD92 OD93 OD96 OD96 OD96 OD96 OD96 OD96 OD96 OD96	000000000000000000000000000000000000000	63FF 7301 7003 4400 3138 4400 70F6 7104 7001 7003 4400 3139 4400 70F6 6500 6500 6500 66925	0F69 0F69 0FC4	G846 H846 ****** A848 G848 H848	LOX MDX MDX MDX BS1 DC BS1 DC BS1 MDX MDX MDX MDX MDX MDX MDX MDX MDX MDX	3 3 1 1 1 1 1 1 1 1	-1 1 G846 H846 F000 /3138 F005 A846 ********** -1 4 G848 H848 F000 /3139 F005 A848 ********** -2 H849 N845 N840	LO XR 3 W1TH -1 AOO UNE TO XR 3 O10 NOT SK ON MDX  XR 3 NO SK1P AT 0 ERR 10 CK LOCK ON ERROR LOOP **********************************	3A152100 3A152110 3A152120 3A152140 3A152140 3A152140 3A152160 3A152170 3A152180 3A152180 3A152200 3A152200 3A152200 3A152220 3A152220 3A152220 3A152230 3A152250 3A152250 3A152280 3A152280 3A152280 3A152320 3A152320
0D88 0D89 0D8A 0D88 0D8F 0D91 0D92 0D93 0094 0095 0D96 0D96 0D96 0D96 0D97		63FF 7301 7001 7003 4400 3138 4400 70F6 7104 7001 7003 4400 70F6 6500 70F6 6500 70F6	0F69 0FC4 0F69 0FC4	G846 H846 ****** A848 G848 H848	LOX MDX MDX MDX BS1 DC BS1 MDX MDX MDX MDX MDX MDX MDX MDX MDX MDX	3 3 1 1 1 1 1 1 1 1	-1 1 G846 H846 F000 /3138 F005 A846 ************************************	LO XR 3 W1TH -1 AOO UNE TO XR 3 O10 NOT SK ON MDX  XR 3 NO SK1P AT O ERR 10 CK LOCK ON ERROR LOOP **********************************	3A152100 3A152110 3A152120 3A152140 3A152140 3A152150 3A152160 3A152170 3A152170 3A152210 3A152200 3A152200 3A152200 3A152220 3A152220 3A152230 3A152250 3A152250 3A152260 3A152270 3A152280 3A152290 3A152300 3A152310 3A152320 3A152330
OD88 OD89 OD8A OD86 OD8F OD91 OD92 OD93 OD96 OD96 OD96 OD96 OD96 OD96 OD96 OD96		63FF 7301 7001 7003 4400 3138 4400 70F6 7104 7001 7003 4400 70F6 6500 6500 6500 6600 70F6 6600 70F6	0F69 0FC4 0FC4 0FC4 0FC6 0OC0	G846 H846 ****** A848 G848 H848	LOX MDX MDX MDX MDX BS1 DC BS1 MDX MDX MDX MDX MDX BS1 MOX MDX BS1 MOX BS1 MOX BS1 MOX BS1 MOX BS1 BS1 MOX BS1	3 3 1 1 1 1 1 1 1 1	-1 1 G846 H846 F000 /3138 F005 A846 ************************************	LO XR 3 W1TH -1 AOO UNE TO XR 3 O10 NOT SK ON MDX  XR 3 NO SK1P AT O ERR 10 CK LOCK ON ERROR LOOP **********************************	3A152100 3A152110 3A152120 3A152130 3A152140 3A152150 3A152150 3A152170 3A152180 3A152210 3A152200 3A152210 3A152200 3A152220 3A152230 3A152240 3A152250 3A152250 3A152250 3A152250 3A152250 3A152230 3A152310 3A152310 3A152330 3A152330
OD88 OD89 OD88 OD86 OD86 OD86 OD91 OD93 OO94 OO95 OD96 OD96 OD96 OD96 OD96 OD96 OD96 OD96		63FF 7301 7001 7003 4400 3138 4400 70F6 61FF 7104 7001 7003 4400 0 70F6 0 6500 0 6500 0 6500 0 7580 0 7580	0F69 0FC4 0F69 0FC4 0FC4 0 OFC6 3 00A8	G846 H846 ****** A848 G848 H848	LOX MDX MDX MDX BS1 DC BS1 MDX MDX MDX MDX MDX MDX MDX MOX BSI MOX BSI MOX BSI MOX BSI MOX BSI BSI BSI BSI BSI BSI BSI BSI BSI BSI	3 3 1 1 1 1 1 1 1 1	-1 1 G846 H846 F000 /3138 F005 A846 ********* -1 4 G848 H848 F000 /3139 F005 A848 ******** -2 H849 N845 N840 H849 K849, &- F000	LO XR 3 W1TH -1 AOO UNE TO XR 3 O1O NOT SK ON MDX  XR 3 NO SK1P AT O ERR 10 CK LOCK ON ERROR LOOP **********************************	3A152100 3A152110 3A152120 3A152140 3A152140 3A152150 3A152160 3A152170 3A152190 3A152190 3A152210 3A152220 3A152220 3A152220 3A152250 3A152250 3A152260 3A152260 3A152260 3A152260 3A152300 3A152310 3A152330 3A152330 3A152330 3A152330 3A152330
OD88 OD89 OD8A OD88 OD8C OO8E OD91 OD93 OO94 OO95 OD96 OD96 OD96 OD96 OD97 OOA1 OOA3 OOA3	000000000000000000000000000000000000000	63FF 7301 7001 7003 4400 3138 4400 70F6 7104 7001 7001 7400 3139 4400 70F6 6500 6500 6500 6925 6925 6925 6925 6925 6925 6925 6925	0F69 0FC4 0F69 0FC4 0FC6 0 0FC6 0 0F69	G846 H846 ***** A848 G848 H848 *****	LOX MDX MDX MDX MOX BS1 DC BS1 MDX	3 3 1 1 1 1 1 1 1 1	-1 1 G846 H846 F000 /3138 F005 A846 ************** -1 4 G848 H848 F000 /3139 F005 A848 *********** -2 H849 N845 N840 H849 K849 K849 K849 K849 K849 K849 K849	LO XR 3 WITH -1 AOO UNE TO XR 3 OIO NOT SK ON MDX  XR 3 NO SKIP AT O ERR 10 CK LOCK ON ERROR LOOP **********************************	3A152100 3A152110 3A152120 3A152140 3A152140 3A152140 3A152150 3A152160 3A152180 3A152190 3A152210 3A152220 3A152220 3A152220 3A152220 3A152230 3A152240 3A152250 3A152260 3A152270 3A152280 3A152230 3A152320 3A152320 3A152320 3A152330 3A152340 3A152350 3A152350 3A152360
OD88 OD89 OD8A OD88 OD8C OO8E OD91 OD93 OO94 OO95 OD96 OD96 OD96 OD96 OD97 OOA1 OOA3 OOA3	000000000000000000000000000000000000000	63FF 7301 7001 7003 4400 3138 4400 70F6 61FF 7104 7001 7003 4400 0 70F6 0 6500 0 6500 0 6500 0 7580 0 7580	0F69 0FC4 0F69 0FC4 0FC6 0 0FC6 0 0F69	G846 H846 ****** A848 G848 H848	LOX MDX MDX MDX MOX BS1 DC BS1 MDX	3 3 1 1 1 1 1 1 1 1	-1 1 G846 H846 F000 /3138 F005 A846 ********* -1 4 G848 H848 F000 /3139 F005 A848 ********* -2 H849 N845 N840 H849 K849, &- F000	LO XR 3 W1TH -1 AOO UNE TO XR 3 O1O NOT SK ON MDX  XR 3 NO SK1P AT O ERR 10 CK LOCK ON ERROR LOOP **********************************	3A152100 3A152110 3A152120 3A152130 3A152140 3A152150 3A152160 3A152170 3A152190 3A152190 3A152200 3A152220 3A152220 3A152220 3A152220 3A152250 3A152250 3A152260 3A152260 3A152260 3A152300 3A152310 3A152330 3A152330 3A152330 3A152330 3A152330

02JAN66 01MAY66 15NOV66 15FE868 26AUG68

EC NO. 415490 415490C 419643 420403 420403A

				*				* MDX OP	3A152380
ODA9	0	F01E			EOR		N841	ZERO ACC WITH /FFFF	3A152390
ODAA	0	4C18	ODAF		8SC	L	G849,&-	BRANCH ON ZERO	3A152400
ODAC	0	4400	0F69		8S I	L	F000	INDIRECT MDX FAILEO	3A152410
OOAE	0	313A			DC		/313A	ERR ID	3A152420
ODAF	0	4400	OFC4	G849	8S I	L	F005	CK LOCK ON ERROR	3A152430
0081	0	70EA			MDX		A849	LOOP	3A152440
				****	****	***	********	*********	3A152430
0082	0	7400	6 200	A84A	MOX	L	N84A,0	TEST SKIP IF ZERO	3A152460 '
ODB4	0	7001			MDX		G84A	BYPASS 1F CORRECT OF	3A152470
0D85					₩OX		H84 A		3A152480
0D86	0	4400	0F69	G84A	BSI	L	F000	MOX L FAILED TO SKIP	3A152490
0088	0	3171		_	DC	_	/3171	ERR ID	3A152500
0DB9	_		OFC4	H84A	851	L	F005	CK LOCK ON ERROR	3A152510
0088					MOX	_	A84A	LOOP	3A152520
	•			****	*****	**	********	*********	3A152530
0080	0	7400	0000	A85A	MDX	L	N844,0	TEST NON SKIP	3A152540
ODBE					MOX		H85A		3A152550
OD8F			0F 69		851	L	F000	MDX L SKIPED	3A152560
00C1					DC	_	/3172	ERR IO	3A152570
00C 2			OFC4	H85A	BSI	L	F005	CK LOCK ON ERROR	3A152580
00C4					MDX		A85A	LOOP	3A152590
ODC 5	Ō	7009			MOX		A880	EXIT TO NEXT ROUTINE	3A152600
0DC6	0	0000		N84A	DC		0	CONSTANT ZERO	3A152610
	-			****	*****	***	*******	***********	3A152620
****	***	****	******	*****	*****	***	*******	*********	3A152630
CORE		OAT	OR	*LA-	OPER-				3A152640
AOOR		1NS	RUCTION	*8EL	ATION	FT	OPERANOS &	REMARKS IDESEQ# AT RIGHT	3A152650
****	***								3A152660
ODC7	0	0000		N840	DC		/0000	STORAGE	3A152670
	-	FFFF		N841	DC		/FFFF		3A152660
0DC9				N842	WALT			AOD TO MEM FAILED	3A152690
	-	3000			WAIT			AOD TO MEM FAILED	3A152700
		3000		N843	WAIT			ADD TO MEM FAILED	3A152710
		0001		N844	OC		/0001		3A152720
0000				N845	OC		N844		3A152730
ODCE				N846	OC		/3001		3A152740
	Ť	• • • •		*					3A152750
				*			TEST	OF SLC OPERATION	3A152760
									3A152770
				****	****	***	********	*****	3A152780
OOCF	0	610A		088A	LDX	1	10	LO XR 1 WITH &10	3A152790
0000	0	CCOO	0EC8		LDD	L	N882	LD A#/0000 Q#/FFFF	3A152800
0D02	0	2002			LOS		2	SET C ON	3A152810
0003	0	1140			SLCA	1	0	NOW AS/0000 QS/FFFF	3A152820
0D <b>0</b> 4	0	6000	OEC7		STX	L1	N880	STORE CXXR 1m	3A152830
0D06	0	2812			STS		G881	STORE CARRY CONDITION	3A152840
0DD7	0	4C18	ODOC		BSC	L	-3,088D	BRANCH ON ZERO	3A152850
0009	0	4400	0F69		BSI	L	F <b>0</b> 00	ACC MATHREDA	24152010
0D08	0	2120						ACC NOT#ZERO	3A152860
		3130			OC.		/3138	ERR 10	3A152870
			0F98	G880		L			3A152870 3A152880
000E	0			G880	OC	L	/3138	ERR 10 CK LOCK ON ERROR LOOP	3A152870 3A152880 3A152890
000F	0	4400 70F0 C400	OEC7	G880	OC BSI	L L	/3138 F00E A880 N880	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 12	3A152870 3A152880 3A152890 3A152900
000F	0	4400 70F0 C400		G880	OC BSI MOX		/3138 FOOE A880	ERR 10 CK LOCK ON ERROR LOOP	3A152870 3A152880 3A152890 3A152900 3A152910
000F 00E1	0 0	4400 70F0 C400 4C18	OEC7	G880	OC BSI MOX LO	L	/3138 F00E A880 N880	ERR IO CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 BRANCH ON ZERO XR 1 NOT#ZERO	3A152870 3A152880 3A152890 3A152900 3A152910 3A152920
000F 00E1 00E3	0 0 0 0	4400 70F0 C400 4C18	0EC7 00E6 0F69	G880	DC BSI MOX LO BSC	L	/3138 FOOE A880 N880 G882,&-	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 BRANCH ON ZERO XR 1 NOT#ZERO ERR 10	3A152870 3A152880 3A152890 3A152900 3A152910 3A152920 3A152930
000F 00E1 00E3 0DE5	0 0 0 0 0	4400 70F0 C400 4C18 4400 313C	0EC7 00E6 0F69	G880 G882	OC BSI MOX LO BSC 8SI	L	/3138 FOOE A880 N880 G882,&- FOOO	ERR IO CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 BRANCH ON ZERO XR 1 NOT#ZERO	3A152870 3A152880 3A152890 3A152900 3A152910 3A152920 3A152930 3A152940
000F 00E1 00E3 0DE5	0 0 0 0 0	4400 70F0 C400 4C18 4400 313C	0EC7 00E6 0F69	G882	OC BSI MOX LO BSC 8SI OC BSI MDX	L L	/3138 FOOE A880 N880 G882,&- FOOO /313C	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 BRANCH ON ZERO XR 1 NOT#ZERO ERR 10 CK LOCK ON ERROR LOOP	3A152870 3A152880 3A152890 3A152900 3A152910 3A152920 3A152930 3A152940 3A152950
000F 00E1 00E3 0DE5 0DE6 0DE8	0 0 0 0 0 0	4400 70F0 C400 4C18 4400 313C	0EC7 00E6 0F69		OC BSI MOX LO BSC 8SI OC BSI MDX LDS	L L	/3138 F00E A880 N880 G882,&- F000 /313C F00E A880	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 8RANCH ON ZERO XR 1 NOT#ZERO ERR 10 CK LOCK ON ERROR LOOP SAVEO BY STS ABOVE	3A152870 3A152880 3A152890 3A152900 3A152910 3A152920 3A152930 3A152940 3A152950 3A152960
000F 00E1 00E3 0DE5 0DE6 0DE8 00E9	0 0 0 0 0 0 0	4400 70F0 C400 4C18 4400 313C 4400 70E6	0EC7 00E6 0F69 0F98	G882	OC BSI MOX LO BSC 8SI OC BSI MDX LDS BSC	L L	/3138 FOOE A880 N880 G882,&- FOOO /313C FOOE A880 O	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 BRANCH ON ZERO XR 1 NOT#ZERO ERR 10 CK LOCK ON ERROR LOOP SAVEO BY STS ABOVE SK 1F CARRY OFF	3A152870 3A152880 3A152890 3A152900 3A152910 3A152920 3A152930 3A152940 3A152950 3A152960 3A152970
000F 00E1 00E3 0DE5 0DE6 0DE8 00E9 00EA	0 0 0 0 0 0 0 0 0	70F0 C400 4C18 4400 313C 4400 70E6 2000 4802 7004	0EC7 00E6 0F69 0F98	G882	OC BSI MOX LO BSC 8SI OC BSI MDX LDS BSC MOX	L L	/3138 FOOE A880 N880 G882,&- FOOO /313C FOOE A880 O C G883	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 BRANCH ON ZERO XR 1 NOT#ZERO ERR 10 CK LOCK ON ERROR LOOP SAVEO BY STS ABOVE SK 1F CARRY OFF CARRY ON	3A152870 3A152880 3A152890 3A152910 3A152910 3A152930 3A152930 3A152940 3A152960 3A152960 3A152970 3A152980
000F 00E1 00E3 0DE5 0DE6 0DE8 00E9 00EA	0 0 0 0 0 0 0 0 0	70F0 C400 4C18 4400 313C 4400 70E6 2000 4802 7004	0EC7 00E6 0F69 0F98	G882	OC BSI MOX LO BSC 8SI OC BSI MDX LDS BSC MOX 8SI	L L	/3138 FOOE A880 N880 G882,&- FOOO /313C FOOE A880 O C G883 FOO5	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 BRANCH ON ZERO XR 1 NOTBZERO ERR 10 CK LOCK ON ERROR LOOP SAVEO BY STS ABOVE SK 1F CARRY OFF CARRY ON CK LOCK ON ERROR	3A152870 3A152880 3A152890 3A152910 3A152910 3A152930 3A152930 3A152940 3A152950 3A152960 3A152970 3A152980 3A152990
OOOF OOE1 OOE3 ODE5 ODE6 ODE8 OOE9 OOEA OOEB ODEC	0 0 0 0 0 0 0 0 0 0	4400 70F0 C400 4C18 4400 313C 4400 70E6 2000 4802 7004 4400 70E0	0EC7 00E6 0F69 0F98	G882	DC BSI MOX LO BSC 8SI OC BSI MDX LDS BSC MOX 8SI MDX	L	/3138 FOOE A880 N880 G882,&- FOOO /313C FOOE A880 O C G883 FOO5 A880	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 BRANCH ON ZERO XR 1 NOT#ZERO ERR 10 CK LOCK ON ERROR LOOP SAVEO BY STS ABOVE SK 1F CARRY OFF CARRY ON CK LOCK ON ERROR LOOP	3A152870 3A152880 3A152890 3A152910 3A152910 3A152930 3A152930 3A152940 3A152950 3A152960 3A152970 3A152980 3A152990 3A152990
OODF OOE3 ODE5 ODE6 ODE8 OOE9 OOEA OOEB ODEC ODEE	0 0 0 0 0 0 0 0 0 0 0	4400 70F0 C400 4C18 4400 313C 4400 70E6 2000 4802 7004 4400 70E0	0EC7 00E6 0F69 0F98	G882 G881	DC BSI MOX LO BSC 8SI OC BSI MDX LDS BSC MOX 8SI MDX MOX	£ L L	/3138 FOOE A880 N880 G882,&- FOOO /313C FOOE A880 O C G883 FOO5 A880 A884	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 BRANCH ON ZERO XR 1 NOT#ZERO ERR 10 CK LOCK ON ERROR LOOP SAVEO BY STS ABOVE SK 1F CARRY OFF CARRY ON CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE	3A152870 3A152880 3A152890 3A152900 3A152910 3A152930 3A152940 3A152950 3A152960 3A152970 3A152980 3A152990 3A152990 3A153000 3A153010
OODF OOE1 OOE3 ODE5 ODE6 ODE8 OOE9 OOEA ODEC ODEE	000000000000000000000000000000000000000	4400 70F0 C400 4C18 4400 313C 4400 70E6 2000 4802 7004 4400 70E0 4400	0EC7 00E6 0F69 0F98	G882	DC BSI MOX LO BSC 8SI MDX LDS BSC MOX 8SI MDX 8SI MDX	L	/3138 FOOE A880 N880 G882,&- FOOO /313C FOOE A880 O C G883 FOO5 A880 A884 FOOO	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS C\$XR 1 BRANCH ON ZERO XR 1 NOT#ZERO ERR 10 CK LOCK ON ERROR LOOP SAVEO BY STS ABOVE SK 1F CARRY OFF CARRY ON CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE CARRY ON \$5HOULO NOT BED	3A152870 3A152880 3A152890 3A152900 3A152910 3A152920 3A152930 3A152940 3A152950 3A152960 3A152970 3A152980 3A152980 3A153000 3A153010 3A153020
OODF OOE1 OOE3 ODE5 ODE6 ODE8 OOE9 OOEA ODEC ODEC ODEC ODF0 ODF0 ODF0	000000000000000000000000000000000000000	4400 70F0 C400 4C18 4400 313C 4400 70E6 2000 4802 7004 4400 70E0 4400 3160	0EC7 00E6 0F69 0F98	G882 G881	DC BSI MOX LO BSC 8SI OC BSI MDX LDS BSC MOX 8SI MDX 8SI MDX	L L	/3138 FOOE A880 N880 G882,&- FOOO /313C FOOE A880 O C G883 FOO5 A880 A884 FOOO /3160	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 BRANCH ON ZERO XR 1 NOT#ZERO ERR 10 CK LOCK ON ERROR LOOP SAVEO BY STS ABOVE SK 1F CARRY OFF CARRY ON CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE CARRY ON SHOULO NOT BED ERR 10	3A152870 3A152880 3A152890 3A152900 3A152910 3A152920 3A152930 3A152940 3A152960 3A152970 3A152980 3A152990 3A153000 3A153010 3A153020 3A153030
OODF OOE1 OOE3 ODE5 ODE6 ODE8 OOE9 OOEA OOEC ODEC OOF0 OOF0 OOF0	000000000000000000000000000000000000000	4400 70F0 C400 4C18 4400 70E6 2000 4802 7004 4400 70E6 4400 3160 4400	0EC7 00E6 0F69 0F98 0FC4	G882 G881	DC BSI MOX LO BSC BSI OC BSI MDX LDS BSC MOX BSI MOX BSI MOX BSI	£ L L	/3138 FOOE A880 N880 G882,&- FOOO /313C FOOE A880 O C G883 FOO5 A880 A884 FOOO /3160 FOO5	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 BRANCH ON ZERO XR 1 NOT#ZERO ERR 10 CK LOCK ON ERROR LOOP SAVEO BY STS ABOVE SK 1F CARRY OFF CARRY ON CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE CARRY ON \$SHOULD NOT BED ERR 10 CK LOCK ON ERROR	3A152870 3A152880 3A152890 3A152910 3A152910 3A152930 3A152940 3A152960 3A152970 3A152980 3A152990 3A153000 3A153010 3A153020 3A153020 3A153030 3A153040
OODF OOE1 OOE3 ODE5 ODE6 ODE8 OOE9 OOEA OOEC ODEC OOF0 OOF0 OOF0	000000000000000000000000000000000000000	4400 70F0 C400 4C18 4400 313C 4400 70E6 2000 4802 7004 4400 70E0 4400 3160	0EC7 00E6 0F69 0F98 0FC4	G882 G881	DC BSI MOX LO BSC 8SI OC BSI MDX LDS BSC MOX 8SI MDX 8SI MDX	L L	/3138 FOOE A880 N880 G882,&- FOOO /313C FOOE A880 O C G883 FOO5 A880 A884 FOOO /3160	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 BRANCH ON ZERO XR 1 NOT#ZERO ERR 10 CK LOCK ON ERROR LOOP SAVEO BY STS ABOVE SK 1F CARRY OFF CARRY ON CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE CARRY ON SHOULO NOT BED ERR 10	3A152870 3A152880 3A152890 3A152900 3A152910 3A152920 3A152930 3A152940 3A152960 3A152970 3A152980 3A152990 3A153000 3A153010 3A153020 3A153030
OODF OOE1 OOE3 ODE5 ODE6 ODE8 OOE9 OOEA OOEC ODEC OOF0 OOF0 OOF0	000000000000000000000000000000000000000	4400 70F0 C400 4C18 4400 70E6 2000 4802 7004 4400 70E6 4400 3160 4400	0EC7 00E6 0F69 0F98 0FC4	G882 G881	DC BSI MOX LO BSC BSI OC BSI MDX LDS BSC MOX BSI MOX BSI MOX BSI	L L	/3138 FOOE A880 N880 G882,&- FOOO /313C FOOE A880 O C G883 FOO5 A880 A884 FOOO /3160 FOO5	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 BRANCH ON ZERO XR 1 NOT#ZERO ERR 10 CK LOCK ON ERROR LOOP SAVEO BY STS ABOVE SK 1F CARRY OFF CARRY ON CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE CARRY ON \$SHOULD NOT BED ERR 10 CK LOCK ON ERROR	3A152870 3A152880 3A152890 3A152910 3A152910 3A152930 3A152940 3A152960 3A152970 3A152980 3A152990 3A153000 3A153010 3A153020 3A153020 3A153030 3A153040
OODF OOE1 OOE3 ODE5 ODE6 ODE8 OOE9 OOEA OOEC ODEC OOF0 OOF0 OOF0	000000000000000000000000000000000000000	4400 70F0 C400 4C18 4400 70E6 2000 4802 7004 4400 70E6 4400 3160 4400	0EC7 00E6 0F69 0F98 0FC4	G882 G881	DC BSI MOX LO BSC BSI OC BSI MDX LDS BSC MOX BSI MOX BSI MOX BSI	L L	/3138 FOOE A880 N880 G882,&- FOOO /313C FOOE A880 O C G883 FOO5 A880 A884 FOOO /3160 FOO5	ERR 10 CK LOCK ON ERROR LOOP LD PREVIOUS CXXR 1 BRANCH ON ZERO XR 1 NOT#ZERO ERR 10 CK LOCK ON ERROR LOOP SAVEO BY STS ABOVE SK 1F CARRY OFF CARRY ON CK LOCK ON ERROR LOOP EXIT TO NEXT ROUTINE CARRY ON \$SHOULD NOT BED ERR 10 CK LOCK ON ERROR	3A152870 3A152880 3A152890 3A152910 3A152910 3A152930 3A152940 3A152960 3A152970 3A152980 3A152990 3A153000 3A153010 3A153020 3A153020 3A153030 3A153040

18M MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

OATE 02JAN66 01MAY66 15NOV66 15FE868 26AUG68

EC NO. 415490 415490C 419643 420403 420403A

CPU FUNCTION TEST

			*****	****	***	*********	********	3A153060
ODE6 O	6580 (	DECO	A884				LO XR 1 WITH /FFDO	3A153070
	0000	- <del>-</del>		LDD	Ĺ	N884	LO A#/0001 Q#/0010	3A153080
OOFA O				LDS		0	LO A#/0001 Q#/0010 SET C ANO DF DFF	3A153090
ODF8 O	1140			SLCA	1	0	ACC NDW /8000	3A153100
00FC 0	2818			STS		G885	STORE C AND OF CONDITION	3A153110
	F400				L	N886	ZERD WITH /8000	3A153120
	4C18 (				L	G884,&-	BRANCH, ON ZERO	3A153130
	4400	DF 69		851	L	F000	ARANCH, ON ZERO ACC NOT#/8000 ERR IO	3A153140
0E03 0	4400 (	0508	G884	0C 8 S I	L	/313D F00E	CHECK LOOP SWITCH	3A153150
0E04 0		UF 90	9004	MDX	•	A884	LOOP	3A153160 3A153170
	6D00	nec 7		STX	. 1	N880	STORE CXXR 1m AT N880	3A153180
	C400			ĽO	ũ	M880	ID CENSSOR	34153190
	F400			E OR	L	N88E	ZERO WITH /FFO1	3A153200
	4C18 (			8SC	L	G886,&-	BRANCH ON ZERO	3A153210 3A153220
	4400	DF 69		128	L	F000	XR-1 NOT FF01	3A153220
0E11 0				DC		/313E	ZERO WITH /FF01 BRANCH ON ZERO XR-1 NOT FF01 ERR ID CK LOCK ON ERROR	3A153230
	4400 (	0F98	G886	_	L	FOOE	CK LOCK ON ERROR	3A153240
0E14 0			C005	MOX		A 0 04	LUUP	3A133230
0E15 0 0E16 0			G885	BSC 8		O C	SAVEO BY STS ABOVE SK IF CARRY OFF	3A153260 3A153270
0E17 0				MDX		G887	SK IF CARRY OFF	3A153280
		DF69		851	L		CARRY OFF, SHOULD BE ON	3A153290
OEIA O				OC.	-	/3161	ERR IO	3A153300
0E18 0	4400 (	DFC4	G887	851	L	F005	CK LOCK ON ERROR	3A153310
0E10 0	70D8			MOX		A884	LOOP	3A153320
							*********	3A153330
					***	*********	*********	
CORE			*LA- (			00504405	DEMINUT 100000 17 01000	3A153350
AODR	14211	KUC   1 UN	*86L /	ILLON	F (	UPERANDS &	REMARKS ID&SEQ# AT RIGHT	3A153360
	6580 (			LDX		4.	IN VO 1 HITH /NAIA	3A153380
	CCOO						LO A# /8000 Q#/FF00	3A153390
0E22 O				SLCA	1		ACC NOW /8000	3A153400
							ACC NUM / 8000	<b>コペチンコマしひ</b>
0E23 0	F400 (	DECC			L	N886	ZERO WITH /8000	3A153410
0E25 O	4C18	DE2A		EOR 8SC	L	N886 G888, &-	ZERO WITH /8000 8RANCH DN ZERO	3A153410 3A153420
0E25 0 0E27 0	4C18 (	DE2A		EOR 8SC 8SI	L	N886 G888, &- F000	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000	3A153410 3A153420 3A153430
0E25 0 0E27 0 0E29 0	4C18 ( 4400 ( 313F	DE2A DF69	5000	EOR 8SC 8SI OC	L	N886 G888, &- F000 /313F	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR IO	3A153410 3A153420 3A153430 3A153440
0E25 0 0E27 0 0E29 0 0E2A 0	4C18 ( 4400 ( 313F 4400 (	DE2A DF69	G888	EOR 8SC 8SI OC 8SI	L	N886 G888, &- F000 /313F F00E	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR IO CK LOCK ON ERROR	3A153410 3A153420 3A153430 3A153440 3A153450
0E25 0 0E27 0 0E29 0 0E2A 0 0E2C 0	4C18 ( 4400 ( 313F 4400 ( 70F1	DE2A DF69 DF98	G888	EOR 8SC 8SI OC 8SI MDX	L L L	N886 G888, &- F000 /313F F00E A888	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR IO CK LOCK ON ERROR LODP	3A153410 3A153420 3A153430 3A153440 3A153450 3A153460
0E25 0 0E27 0 0E29 0 0E2A 0 0E2C 0 0E2C 0	4C18 ( 4400 ( 313F 4400 ( 70F1 6D00 (	DE2A DF69 DF98 DEC7	G888	EOR 8SC 8SI OC 8SI MDX STX	L L L	N886 G888, &~ F000 /313F F00E A888 N880	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR ID CK LOCK ON ERROR LODP STORE CXXR 1º IN N880	3A153410 3A153420 3A153430 3A153440 3A153450 3A153460 3A153470
0E25 0 0E27 0 0E29 0 0E2A 0 0E2C 0 0E2C 0	4C18 ( 4400 ( 313F 4400 ( 70F1	DE2A DF69 DF98 DEC7 DEC7	G888	EOR 8SC 8SI OC 8SI MDX STX LD	L L L L1	N886 G888,&~ F000 /313F F00E A888 N880 N880	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR IO CK LOCK ON ERROR LODP STORE CEXR IP IN N880 LO CENBSOR	3A153410 3A153420 3A153430 3A153440 3A153450 3A153460 3A153470 3A153480
0E25 0 0E27 0 0E29 0 0E2A 0 0E2C 0 0E2C 0 0E2F 0 0E31 0	4C18 ( 4400 ( 313F 4400 ( 70F1 6D00 ( C400 (	DE2A DF69 DF98 DEC7 DEC7 DEC8	G888	EOR 8SC 8SI OC 8SI MDX STX	L L L	N886 G888, &~ F000 /313F F00E A888 N880	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR IO CK LOCK ON ERROR LODP STORE CEXR IP IN N880 LO CENBSOR	3A153410 3A153420 3A153430 3A153440 3A153450 3A153460 3A153470
0E25 0 0E27 0 0E29 0 0E2A 0 0E2C 0 0E2C 0 0E2F 0 0E31 0 0E33 0	4C18 (4400 (313F) 4400 (70F1) 6D00 (C400 (F400 (4C18 (4400 (	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38	G888	EOR 8SC 8SI OC 8SI MDX STX LD EOR	L L L1 L	N886 G888, &~ F000 /313F F00E A888 N880 N880 N880	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR IO CK LOCK ON ERROR LODP STORE CEXR IP IN N880 LO CENBSOR	3A153410 3A153420 3A153430 3A153440 3A153450 3A153460 3A153470 3A153480 3A153490
0E25 0 0E27 0 0E29 0 0E2A 0 0E2C 0 0E2C 0 0E25 0 0E31 0 0E33 0 0E37 0	4C18 (4400 (313F) (4400 (70F1) (6D00 (6400	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69		EOR 8SC 8SI OC 8SI MDX STX LD EOR 8SC 8SI DC		N886 G888, &~ F000 /313F F00E A888 N880 N880 N885 G88A, &~	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR IO CK LOCK ON ERROR LODP STORE CEXR 1º IN N880 LO CENB80 ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010	3A153410 3A153420 3A153440 3A153440 3A153450 3A153460 3A153470 3A153480 3A153490 3A153500
0E25 0 0E27 0 0E29 0 0E2A 0 0E2C 0 0E2C 0 0E31 0 0E31 0 0E35 0 0E37 0	4C18 (4400 (313F) 4400 (70F1) 6D00 (C400 (F400 (4400 (3140 (4400 (	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69	G888 G88A	EOR 8SC 8SI OC 8SI MDX STX LD EOR 8SC 8SI DC 8SI		N886 G888, &- F000 /313F F00E A888 N880 N880 N885 G88A, &- F000 /3140 F005	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR IO CK LOCK ON ERROR LODP STORE CXXR 1º IN N880 LO CXNB80 ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR IO CK LOCK ON ERROR	3A153410 3A153420 3A153440 3A153440 3A153450 3A153460 3A153470 3A153490 3A153500 3A153510 3A153510 3A153520 3A153530
0E25 0 0E27 0 0E29 0 0E2A 0 0E2C 0 0E2C 0 0E25 0 0E31 0 0E33 0 0E37 0	4C18 (4400 (313F) 4400 (70F1) 6D00 (C400 (F400 (4400 (3140 (4400 (	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69	G88A	EOR 8SC 8SI OC 8SI MDX STX LD EOR 8SC 8SI DC 8SI MDX	L L L L L L L	N886 G888, &~ F000 /313F F00E A888 N880 N880 N885 G88A, &~ F000 /3140 F005 A888	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR ID CK LOCK ON ERROR LODP STORE CXXR 1 IN N880 LO CXN880 II ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR ID CK LOCK ON ERROR LOOP	3A153410 3A153420 3A153440 3A153440 3A153450 3A153460 3A153470 3A153490 3A153500 3A153510 3A153520 3A153520 3A153540
OE25 O OE27 O OE29 O OE2C O OE2C O OE31 O OE33 O OE35 O OE37 O OE3A O	4C18 (4400 (313F) (4400 (70F)	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69	G88A	EOR 8SC 8SI OC 8SI MDX STX LD EOR 8SC 8SI DC 8SI MDX ******	L L L L L L L	N886 G888, &~ F000 /313F F00E A888 N880 N880 N885 G88A, &~ F000 /3140 F005 A888	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR ID CK LOCK ON ERROR LODP STORE CEXR 1º IN N880 LO CENBBO¤ ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR IO CK LOCK ON ERROR LOOP	3A153410 3A153420 3A153440 3A153440 3A153450 3A153470 3A153470 3A153490 3A153500 3A153510 3A153510 3A153520 3A153530 3A153550
OE25 O OE27 O OE29 O OE2C O OE2C O OE31 O OE33 O OE37 O OE38 O OE38 O	4400 (313F 4400 (70F1 6400 (44	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69	G88A	EOR 8SC 8SI OC 8SI MDX STX LD EOR 8SC 8SI DC 8SI MDX *******	L L L L L L L L L L L L L L L L L L L	N886 G888, &~ F000 /313F F00E A888 N880 N885 G88A, &~ F000 /3140 F005 A888	ZERO WITH /8000  8RANCH ON ZERO  ACC NOT#8000  ERR IO  CK LOCK ON ERROR  LODP  STORE C\$\text{T}\$ IN N880  LO C\$\$\text{\$\exit{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\te	3A153410 3A153420 3A153440 3A153440 3A153450 3A153460 3A153470 3A153490 3A153500 3A153510 3A153520 3A153520 3A153530 3A153530 3A153540 3A153550 3A153550
OE25 O OE27 O OE29 O OE2A O OE2C O OE2F O OE31 O OE35 O OE37 O OE38 O OE3A O	4400 (313F) 4400 (670F) 6400 (670F) 6400 (4618 (670F) 4400 (70E3) 6110 (6210	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69	G88A	EOR 8SC 8SI OC 8SI MDX STX LD EOR 8SC 8SI DC 8SI MDX ***********************************	L L L L L L L L 2	N886 G888, &~ F000 /313F F00E A888 N880 N880 N885 G88A, &~ F000 /3140 F005 A888	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR 10 CK LOCK ON ERROR LODP STORE C\$XR 1º IN N880 LO C\$N880 ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR 10 CK LOCK ON ERROR LODP ************************************	3A153410 3A153420 3A153440 3A153440 3A153450 3A153470 3A153470 3A153500 3A153500 3A153500 3A153500 3A153500 3A153500 3A153500 3A153500 3A153500 3A153570
OE25 O OE27 O OE29 O OE2A O OE2C O OE2F O OE33 O OE35 O OE37 O OE38 O OE3A O OE38 O OE3C O OE3C O	4C18 (4400 (313F) (4400 (6400	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69 DFC4	G88A	EOR 8SC 8SI OC 8SI MDX STX LD EOR 8SC 8SI DC 8SI MDX ******	L L L L L L L L 2 3	N886 G888, &~ F000 /313F F00E A888 N880 N885 G88A, &~ F000 /3140 F005 A888 *********************************	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR IO CK LOCK ON ERROR LODP STORE CXXR 1º IN N880 LO CXNB80 ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR IO CK LOCK ON ERROR LOOP **********************************	3A153410 3A153420 3A153440 3A153450 3A153450 3A153470 3A153490 3A153500 3A153510 3A153510 3A153520 3A153550 3A153550 3A153560 3A153560 3A153560 3A153560
OE25 O OE27 O OE29 O OE2A O OE2C O OE2F O OE33 O OE35 O OE37 O OE38 O OE3A O OE38 O OE3C O OE3C O	4C18 (4400 (313F (4400 (6400 (	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69 DFC4	G88A	EOR 8SC 8SI OC 8SI MDX STX LD EOR 8SC 8SI DC 8SI MDX *******	L L L L L L L L 2	N886 G888,&~ F000 /313F F00E A888 N880 N880 N885 G88A,&~ F000 /3140 F005 A888 *********************************	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR 10 CK ŁOCK ON ERROR LODP STORE C%XR 1º IN N880 LO C%N880 ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR 10 CK ŁOCK ON ERROR LOOP LO XR 1 WITH /0010 LD XR 2 WITH /0010 LD XR 3 WITH /0010 LD A#/0001	3A153410 3A153420 3A153440 3A153440 3A153460 3A153470 3A153490 3A153510 3A153510 3A153520 3A153520 3A153540 3A153550 3A153550 3A153560 3A153570 3A153570 3A153580 3A153590
0E25 0 0E27 0 0E29 0 0E2A 0 0E2C 0 0E2F 0 0E33 0 0E35 0 0E38 0 0E38 0 0E3A 0	4C18 (4400 (313F (4400 (6400 (	DEZA DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69 DFC4	G88A	EOR 8SC 8SI OC 8SI MDX STX LD EOR 8SC 8SI DC 8SI MDX ***********************************	L L L L L L L L 2 3	N886 G888, &~ F000 /313F F00E A888 N880 N885 G88A, &~ F000 /3140 F005 A888 *********************************	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR IO CK LOCK ON ERROR LODP STORE CXXR 1º IN N880 LO CXNB80 ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR IO CK LOCK ON ERROR LOOP **********************************	3A153410 3A153420 3A153440 3A153450 3A153450 3A153470 3A153490 3A153500 3A153510 3A153510 3A153520 3A153550 3A153550 3A153560 3A153560 3A153560 3A153560
OE25 O OE27 O OE29 O OE2C O OE2C O OE31 O OE35 O OE37 O OE38 O OE3C O OE3C O OE3C O OE3C O OE3C O OE41 O OE43 O OE43 O	4400 (313F 4400 (70F1 6400 (70F3	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69 DFC4	G88A	EOR 8SC 8SI OC 8SI MDX STX LD EOR 8SI DC 8SI MDX ***********************************	L L L L L L 2 3 L	N886 G888, &~ F000 /313F F00E A888 N880 N880 N885 G88A, &~ F000 /3140 F005 A888 *********************************	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR 10 CK ŁOCK ON ERROR LODP STORE C\$\text{T} = IN N880 LO C\$\text{\$\text{\$NB80}\$} = ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR 10 CK ŁOCK ON ERROR LOOP **********************************	3A153410 3A153420 3A153440 3A153440 3A153460 3A153470 3A153480 3A153490 3A153510 3A153510 3A153520 3A153520 3A153550 3A153570 3A153570 3A153580 3A153580 3A153580 3A153580
OE25 O OE27 O OE29 O OE20 O OE20 O OE33 O OE37 O OE38 O OE38 O OE36 O OE36 O OE41 O OE45 O	4C18 (4400 (313F (4400 (6400 (	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69 DFC4	G88A	EOR 8SC 8SI OC MDX STX LD EOR 8SC 8SI DC 10X LDX LDX LDX LDX LDX LDX LDX LDX LDX LD	L L L L L L L 2 3 L L	N886 G888, &~ F000 /313F F00E A888 N880 N885 G88A, &~ F000 /3140 F005 A888 *********************************	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR 10 CK LOCK ON ERROR LODP STORE CXXR 1º IN N880 LO CXN880 ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR 10 CK LOCK ON ERROR LOOP **********************************	3A153410 3A153420 3A153440 3A153450 3A153450 3A153470 3A153490 3A153510 3A153520 3A153520 3A153520 3A153550 3A153550 3A153560 3A153560 3A153560 3A153560 3A153560 3A153560 3A153560 3A153560 3A153560 3A15363600 3A15363600
OE25 O OE27 O OE29 O OE20 O OE20 O OE31 O OE33 O OE37 O OE38 O OE38 O OE36 O OE36 O OE41 O OE41 O OE47 O OE47 O OE47 O	4C18 (4400 (313F 4400 (6	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69 DFC4 DECA DECA DECA DECA DECA DECA	G88A ****** A889	EOR 8SC 8SI OC MDX STX LD EOR 8SC 8SI DC 8SI MDX LOX LOX LOX LOX LOX LOX LOX LO	L L L L L L L L L L L L L L L L L L L	N886 G888, &- F000 /313F F00E A888 N880 N880 N885 G88A, &- F000 /3140 F005 A888 ********************************	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR 10 CK LOCK ON ERROR LODP STORE CXXR 1º IN N880 LO CXNB80 ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR 10 CK LOCK ON ERROR LOOP **********************************	3A153410 3A153440 3A153440 3A153450 3A153460 3A153470 3A153480 3A153490 3A153510 3A153510 3A153520 3A153550 3A153550 3A153550 3A153560 3A153570 3A153580 3A153560 3A153640 3A153640
OE25 O OE27 O OE29 O OE2A O OE2C O OE2C O OE3T O OE38 O OE3A O OE3C O OE3C O OE4C O OE4T O OE	4400 (4400 (6400 (	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69 DFC4 DECA DECA DECA DECA DECA DECA	G88A	EOR 8SC 8SI OC 8SI MDX STX LD 8SC 8SI DC 8SI MDX LOX LDX LDX LDX LDX LDX LDX LDX LDX LDX LD	L L L L L L	N886 G888, &- F000 /313F F00E A888 N880 N880 N885 G884, &- F000 /3140 F005 A888 *********************************	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR 10 CK ŁOCK ON ERROR LODP STORE CXXR 1º IN N880 LO CXNB80 ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR 10 CK ŁOCK ON ERROR LOOP **********************************	3A153410 3A153420 3A153440 3A153440 3A153460 3A153470 3A153480 3A153490 3A153510 3A153510 3A153520 3A153550 3A153550 3A153560 3A153560 3A153600 3A153600 3A153610 3A153620 3A153630 3A153640 3A153650
OE25 O OE27 O OE29 O OE20 O OE20 O OE31 O OE33 O OE37 O OE38 O OE38 O OE36 O OE36 O OE41 O OE41 O OE47 O OE47 O OE47 O	4400 (4400 (6400 (	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69 DFC4 DECA DECA DECA DECA DECA DECA	G88A ****** A889 G889	EOR 8SCI OC 8SI MDX STX LD EOR 8SCI DC 8SI DC 8SI LOX LOX LDX LDX LDX LDX LDX LDX LDX LDX LDX LD	L L L L L	N886 G888, &~ F000 /313F F00E A888 N880 N885 G88A, &~ F000 /3140 F005 A888 *********************************	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR IO CK LOCK ON ERROR LODP STORE CEXR I IN N880 LO CENBBOR ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR IO CK LOCK ON ERROR LOOP **********************************	3A153410 3A153420 3A153440 3A153440 3A153440 3A153470 3A153490 3A153500 3A153500 3A153500 3A153500 3A153500 3A153500 3A153500 3A153500 3A153500 3A153500 3A153500 3A153600 3A153600 3A153600 3A153600 3A153600 3A153600 3A153600 3A153600 3A153600 3A153600 3A1536600 3A1536600 3A1536600
OE25 OE27 OE27 OE29 OE2A OE2A OE26 OE20 OE27 OE33 OE37 OE38 OE38 OE38 OE36 OE36 OE36 OE46 OE46 OE46 OE46 OE48 OE48 OE48 OE48 OE48 OE48	4400 ( 44	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69 DFC4 DECA DECA DECA DECA DECA DECA	G88A ****** A889 G889	EOR 8SCI OC MDX STX LD EOR 8SCI DC 8SI DC SI LOX LOX LOX LOX LOX LOX LOX LOX LOX LOX	LLL L 1 LLL L ** 1 2 3 L LLL L ***	N886 G888, &~ F000 /313F F00E A888 N880 N885 G88A, &~ F000 /3140 F005 A888 *********************************	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR 10 CK LOCK ON ERROR LODP STORE C\$XR 1 IN N880 LO C\$N880 IZ ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR 10 CK LOCK ON ERROR LOOP **********************************	3A153410 3A153420 3A153440 3A153450 3A153460 3A153470 3A153470 3A153500 3A153500 3A153500 3A153500 3A153500 3A153550 3A153560 3A153560 3A153600 3A153610 3A153610 3A153600 3A153610 3A153600 3A153610 3A153640 3A153660 3A153660 3A153660 3A153660 3A153660
OE25 O OE27 O OE29 O OE2A O OE26 O OE33 O OE37 O OE38 O OE3A O OE36 O OE40 O OE45 O OE46 O OE45 O OE48 O OE48 O OE48 O OE48 O OE48 O OE48 O	4C18 (4400 (313F) 4400 (70F) 6D00 (C400 (6	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69 DFC4	G88A ****** A889 G889	EOR 8SC 8SI OC 8SI MDX STX LD EOR 8SC 8SI DC 1 EOX LDX LDX LDX LDX LDX LDX LDX LDX LDX LD	LLL L 12 L 12 L LLL L **** 1	N886 G888, &~ F000 /313F F00E A888 N880 N885 G88A, &~ F000 /3140 F005 A888 *********************************	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR 10 CK LOCK ON ERROR LODP STORE C\$XR 1º IN N880 LO C\$N880 ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR 10 CK LOCK ON ERROR LODP ************************************	3A153410 3A153420 3A153440 3A153450 3A153450 3A153470 3A153490 3A153500 3A153510 3A153520 3A153520 3A153550 3A153550 3A153560 3A153560 3A153560 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660
OE25 OE27 OE27 OE29 OE2A OE2A OE26 OE20 OE27 OE33 OE37 OE38 OE38 OE38 OE36 OE36 OE36 OE46 OE46 OE46 OE46 OE48 OE48 OE48 OE48 OE48 OE48	4C18 (4400 (313F) 4400 (70F1) 6D00 (C400 (6400 (	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69 DFC4	G88A ****** A889 G889	EOR 8SC 8SI OC MDX STX LO 8SI DC 8SI DC 8SI LOX LOX LOX LOX LOX LOX LOX LOX	LLL L L ** 1 2 3 L LLL L ** 1 2	N886 G888, &~ F000 /313F F00E A888 N880 N880 N885 G88A, &~ F000 /3140 F005 A888 ********************************	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR 10 CK LOCK ON ERROR LODP STORE CXXR 1º IN N880 LO CXNB80 ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR 10 CK LOCK ON ERROR LODP ************************************	3A153410 3A153420 3A153440 3A153450 3A153460 3A153470 3A153490 3A153510 3A153520 3A153520 3A153550 3A153550 3A153550 3A153560 3A153560 3A153600 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660
OE25 O OE27 O OE29 O OE20 O OE20 O OE25 O OE33 O OE38 O OE38 O OE38 O OE38 O OE38 O OE40 O OE41 O OE45 O OE45 O OE46 O OE	4C18 (4400 (313F) 4400 (70F1) 6D00 (C400 (6400 (	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69 DFC4 DECA DECA DECA DECA DECA DECA DECA DECA	G88A ****** A889 G889	EOR 8SC 8SI OC 8SI MDX STX LO 8SC 8SC 8SI DC 8SI LOX LOX LOX LOX LOX LOX LOX LOX	LLL L L ** 1 2 3 L LLL L ** 1 2	N886 G888, &~ F000 /313F F00E A888 N880 N885 G88A, &~ F000 /3140 F005 A888 *********************************	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR 10 CK LOCK ON ERROR LODP STORE C\$XR 1º IN N880 LO C\$N880 ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR 10 CK LOCK ON ERROR LODP ************************************	3A153410 3A153420 3A153440 3A153450 3A153450 3A153470 3A153490 3A153500 3A153510 3A153520 3A153520 3A153550 3A153550 3A153560 3A153560 3A153560 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660
OE25 O OE27 O OE29 O OE20 O OE20 O OE25 O OE33 O OE38 O OE38 O OE38 O OE38 O OE38 O OE40 O OE41 O OE45 O OE45 O OE46 O OE	4400 (400 (400 (400 (400 (400 (400 (400	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69 DFC4 DECA DECA DECA DECA DECA DECA DECA DECA	G88A ****** A889 G889	EOR 8SC 8SI OC MDX STX LO 8SI DC 8SI DC 8SI LOX LOX LOX LOX LOX LOX LOX LOX	LLL L L *** 1 2 3 L L L L **** 1 2 3	N886 G888, &- F000 /313F F00E A888 N880 N880 N885 G88A, &- F000 /3140 F005 A888 ********************************	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR 10 CK LOCK ON ERROR LODP STORE CXXR 1º IN N880 LO CXNB80 ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR 10 CK LOCK ON ERROR LOOP **********************************	3A153410 3A153440 3A153440 3A153450 3A153460 3A153470 3A153490 3A153510 3A153510 3A153520 3A153520 3A153550 3A153550 3A153550 3A153560 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153660 3A153670 3A153670 3A153670 3A153670
OE25 O OE27 O OE29 O OE26 O OE20 O OE31 O OE33 O OE37 O OE38 O OE36 O OE36 O OE40 O OE45 O OE47 O OE48 O OE46 O OE50 O OE50 O	4400 (400 (400 (400 (400 (400 (400 (400	DE2A DF69 DF98 DEC7 DEC7 DEC8 DE38 DF69 DFC4 DECA DECA DECA DECA DECA DECA DECA DECA	G88A ****** A889 G889	EOR 8SCI OC 8SI MDX STX LD EOR 8SCI DC 8SI DC 8SI LOX LDX LDX LDX LDX LDX LDX LDX LDX LDX LD	LLL L L *** 1 2 3 L L L L **** 1 2 3	N886 G888, &~ F000 /313F F00E A888 N880 N885 G88A, &~ F000 /3140 F005 A888 *********************************	ZERO WITH /8000 8RANCH ON ZERO ACC NOT#8000 ERR 10 CK ŁOCK ON ERROR LODP STORE CXXR 1º IN N880 LO CXNB80 ZERO WITH /0010 8RANCH ON ZERO XR 1 NOT#0010 ERR 10 CK ŁOCK ON ERROR LOOP **********************************	3A153410 3A153420 3A153440 3A153440 3A153440 3A153440 3A153470 3A153480 3A153500 3A153500 3A153520 3A153530 3A153550 3A153550 3A153550 3A153560 3A153560 3A153600

02JAN66 01MAY66 15N0V66 15FE868 26AUG68

415490C 419643 420403 420403A

0E53 0 4C18 0E56		8SC	L	G888, &-	NDN INDEXED SLC FAILED	3A153740
0E55 0 3173		OC	_	/3173	ERR 10	
0E56 0 4400 OFC4	G888	851	L	F005	CK LOCK ON ERROR	3A153750
0E58 0 70F2	0000	MOX	_			3A153760
0130 0 10/2				A88A	LOOP	3A153770
					*******	3A153780°
0550 0 1500 0000					*******	3 <b>A</b> 153 <b>79</b> 0
0E59 0 6580 0E02	A88C	LDX	11	N88C	LD XR 1 WITH /0020	3A153800
0E58 0 C872		LDD		N888	LO A#/0000 Q#/0000	3A153810
0E5C 0 11C0		SLC	1	0	ACC NOW A#/0000 Q#/0000	3A153820
0E50 0 4C18 0E62		8 S C	L	-3,3889	BRANCH ON ZERO	3A153830
OE5F O 4400 OF69		BSI	L	F000	ACC NOT#0000	3A153840
0E61 0 3141		DC		/3141	ERR IO	3A153850
0E62 0 4400 0F98	G88C	851	L	FOOE	CK LOCK DN ERROR	3A153860
0E64 0 70F4	••••	MDX	_	ABBC	LOOP	
0E65 0 1800		RTE		16		3A153870
0E66 0 4C18 0E68						3A153880
0E68 0 4400 0F69		8SC	L	• -	BRANCH ON ZERO	3A153890
0E6A 0 3142		851	L	F000	0 REG NDT#0000	3 <b>A</b> 153900
·		OC.		/3142	ERR 10	3A153910
0E68 0 4400 0F98	G88E	851	L	FOOE	CK LOCK ON ERROR	3 <b>A1</b> 53920
0E60 0 70E8		MDX		A88C	LOOP	3 <b>A</b> 153930
OE6E 0 6958		STX	1	N880	STORE CXXR 10 IN N880	3A153940
0E6F 0 C057		LD		N880	LO C\$N880B	3A153950
0E70 0 4C18 0E75		8SC	L	-3,088L	BRANCH ON ZERO	3A153960
0E72 0 4400 0F69		851	L	F000	XR 1 NDT#000U	3A153970
0E74 0 3143	•	OC.	-	/3143	ERR ID	3A153980
0E75 0 4400 OFC4	<b>088L</b>	851	L	F005	CK LOCK ON ERROR	
0E77 0 70E1	0000	MDX	-	A88C	LOOP	3A153990
	****	_			******	3A154000
*****	*****				***************	3A154010
CORE DATA OR	*! *	77 <del>77</del> 7	+++	~~~~~~~		
	*LA- (					3A154030
AUUK INSIKULII	UN TOEL	ALLUN	FI	OPERANDS &	REMARKS IDESEQ# AT RIGHT	3A154040
0570 0 4500 0530					*****************	3A154050
	8882			MOON	IN VO 1 HITH /CCAC	3A154060
0E78 0 6580 0E03	0002	LOX	) I	N88D	LD XR 1 WITH /FFOF	JAI J4000
0E7A 0 C855	0002	LDO	7.1	N88A	LD A#/0000 Q#/0002	3A154070
0E7A 0 C855 0E7B 0 11C0	8602			· <del>-</del>		
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F	6662	LDO		N88A	LD A#/0000 Q#/0002	3A154070
0E7A 0 C855 0E7B 0 11C0	8602	STC STC		N88A 0	LD A#/0000 Q#/0002 NOW A#/8000 Q#/0000	3A154070 3A154080 3A154090
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F	0002	LDO SLC EOR	l L	N88A O N886	LD A#/0000 Q#/0002 NOW A#/8000 Q#/0000 ZERO WITH /8000 BRANCH ON ZERO	3A154070 3A154080 3A154090 3A154100
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E70 0 4C18 0E82		LDO SLC EOR 8SC 8SI	1	N88A 0 N886 J882+&- F000	LD A#/0000 Q#/0002 NOW A#/8000 Q#/0000 ZERO WITH /8000 BRANCH ON ZERO ACC NOT#/8000	3A154070 3A154080 3A154090 3A154100 3A154110
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7O 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144		LDO SLC EOR 8SC 8SI DC	l L L	N88A 0 N886 J882+&- F000 /3144	LD A#/0000 Q#/0002 NOW A#/8000 Q#/0000 ZERO WITH /8000 BRANCH ON ZERO ACC NOT#/8000 ERR ID	3A154070 3A154080 3A154090 3A154100 3A154110 3A154120
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7C 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98	J882	LDO SLC EOR 8SC 8SI DC 8SI	l L	N88A 0 N886 J882.E- F000 /3144 F00E	LD A#/0000 Q#/0002 NOW A#/8000 Q#/0000 ZERO WITH /8000 BRANCH ON ZERO ACC NOT#/8000 ERR ID CK LOCK ON ERROR	3A154070 3A154080 3A154090 3A154100 3A154110 3A154120 3A154130
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7D 0 4C18 0E82 0E7F 0 4C400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3		LDO SLC EOR 8SC 8SI DC 8SI MOX	l L L	N88A 0 N886 J882.E- F000 /3144 F00E B882	LD A#/0000 Q#/0002 NOW A#/8000 Q#/0000 ZERO WITH /8000 8RANCH ON ZERO ACC NOT#/8000 ERR ID CK LOCK ON ERROR LOOP	3A154070 3A154080 3A154090 3A154100 3A154110 3A154120 3A154130 3A154140
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0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7O 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3 0E85 0 18D0 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E88 0 4400 0F98 0E80 0 70EA 0E80 0 70EA	J882	LDO SLC EOR 8SC 8SI DC 8SI MOX RTE 8SC 8SI DC 8SI MDX	1 L L	N88A 0 N886 J882,&- F000 /3144 F00E 8882 16 J884,&- F000 /3145 F00E 8882	LD A#/0000 Q#/0002 NOM A#/8000 Q#/0000 ZERO MITH /8000 8RANCH ON ZERO ACC NOT#/8000 ERR ID CK LOCK ON ERROR LOOP NOM A#/0000 Q#/8000 8RANCH ON ZERO Q REG NOT#0000 ERR IO CK LOCK ON ERROR	3A154070 3A154080 3A154090 3A154100 3A154110 3A154120 3A154120 3A154140 3A154160 3A154160 3A154160 3A154170 3A154180 3A154190 3A154200
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7O 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3 0E85 0 1800 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E88 0 4400 0F98 0E80 0 70EA 0E8E 0 6938 0E8F 0 C037 0E90 0 F400 0E04	J882	LDO SLC EOR 8SC 8SI DC 8SI MOX RTE 8SC 8SI DC 8SI MDX STX	1 L L	N88A 0 N886 J882, &- F000 /3144 F00E B882 16 J884, &- F000 /3145 F00E 8882 N880	LD A#/0000 0#/0002 NOM A#/8000 Q#/0000 ZERO MITH /8000 8RANCH ON ZERO ACC NOT#/8000 ERR ID CK LOCK ON ERROR LOOP NOM A#/0000 Q#/8000 8RANCH ON ZERO Q REG NOT#0000 ERR IO CK LOCK ON ERROR LOOP STORE C\$XR I# AT N880	3A154070 3A154080 3A154090 3A154100 3A154110 3A154120 3A154140 3A154160 3A154160 3A154160 3A154170 3A154180 3A154190 3A154200 3A154210
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0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7O 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3 0E85 0 18D0 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E88 0 4400 0F98 0E8E 0 6938 0E8F 0 C037 0E90 0 F400 0E04 0E92 0 4C18 0E97 0E94 0 4400 0F69 0E96 0 3146	J882	LDO SLC EOR 8SC 8SI MDX RTE 8SC 8SI MDX STX LO EOR 8SI MDX STX LO EOR		N88A 0 N886 J882,&- F000 /3144 F00E 8882 16 J884,&- F000 /3145 F00E 8882 N880 N880 N880 N886,&- F000 /3146	LD A#/0000 0#/0002 NOM A#/8000 Q#/0000 ZERO MITH /8000 8RANCH ON ZERO ACC NOT#/8000 ERR IO CK LOCK ON ERROR LOOP NOM A#/0000 Q#/8000 8RANCH ON ZERO Q REG NOT#0000 ERR IO CK LOCK ON ERROR LOOP STORE C\$XR 1  AT N880 LO C\$N8800 ZERO MITH /FF01 8RANCH ON ZERO XR-1 NOT FF01 ERR IO	3A154070 3A154080 3A154090 3A154100 3A154110 3A154120 3A154120 3A154140 3A154160 3A154160 3A154160 3A154190 3A154200 3A154200 3A154200 3A154200 3A154200 3A154200 3A154200 3A154200 3A154200 3A154200 3A154200 3A154200 3A154200
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7O 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3 0E85 0 18D0 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E88 0 4400 0F98 0E80 0 70EA 0E8E 0 6938 0E8F 0 C037 0E90 0 F400 0E04 0E92 0 4C18 0E97 0E94 0 4400 0F69 0E94 0 3146 0E97 0 4400 0FC4	J882	LDO SLC EOR 8SC 8SI MOX RTE 8SC BSI DC 8SI MDX STX LO EOR 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI		N88A 0 N886 J882, &- F000 /3144 F00E 8882 16 J884, &- F000 /3145 F00E 8882 N880 N880 N880 N886 J886, &- F000 /3146 F005	LD A#/0000 0#/0002 NOM A#/8000 Q#/0000 ZERO WITH /8000 8RANCH ON ZERO ACC NOT#/8000 ERR ID CK LOCK ON ERROR LOOP NOM A#/0000 Q#/8000 8RANCH ON ZERO Q REG NOT#/0000 ERR IO CK LOCK ON ERROR LOOP STORE C\$XR 1# AT N880 LO C\$N880# ZERO WITH /FF01 8RANCH ON ZERO XR-1 NOT FF01 ERR IO CK LOCK ON ERROR	3A154070 3A154080 3A154090 3A154110 3A154110 3A154120 3A154130 3A154140 3A154160 3A154160 3A154170 3A154180 3A154210 3A154210 3A154220 3A154220 3A154220 3A154230 3A154240 3A154250 3A154260 3A154270
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7O 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3 0E85 0 18D0 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E88 0 4400 0F98 0E8E 0 6938 0E8F 0 C037 0E90 0 F400 0E04 0E92 0 4C18 0E97 0E94 0 4400 0F69 0E96 0 3146	J882	LDO SLC EOR 8SI BSI MDX RTSC 8SI DC 8SI MDX STX LO 8SI MDX STX LO 8SI MDX STX MDX MDX MDX MDX MDX MDX MDX MDX MDX MD		N88A 0 N886 J882.&- F000 /3144 F00E 8882 16 J884.&- F000 /3145 F00E 8882 N880 N880 N886 N886 J886.&- F000 /3146 F005 8882	LD A#/0000 Q#/0002 NOM A#/8000 Q#/0000 ZERO MITH /8000 BRANCH ON ZERO ACC NOT#/8000 ERR IO CK LOCK ON ERROR LOOP NOM A#/0000 Q#/8000 BRANCH ON ZERO Q REG NOT#0000 ERR IO CK LOCK ON ERROR LOOP STORE C\$XR I¤ AT N880 LO C\$N880¤ ZERO WITH /FF01 BRANCH ON ZERO XR-1 NOT FF01 ERR IO CK LOCK ON ERROR	3A154070 3A154080 3A154090 3A154110 3A154110 3A154120 3A154130 3A154140 3A154140 3A154160 3A154170 3A154180 3A154210 3A154220 3A154220 3A154220 3A154220 3A154240 3A154240 3A154250 3A154270 3A154270 3A154280
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7O 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3 0E85 0 18D0 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E8B 0 4400 0F98 0E8D 0 70EA 0E8E 0 6938 0E8F 0 C037 0E90 0 F400 0E04 0E92 0 4C18 0E97 0E94 0 4400 0F69 0E96 0 3146 0E97 0 4400 0FC4 0E99 0 70DE	J882 J884 J886	LDO SLC EOR 8SI BSI MDX RTSC 8SI DC 8SI MDX STX LO 8SI MDX STX LO 8SI MDX STX LO 8SI MDX STX LO 8SI MDX SSI MD		N88A 0 N886 J882.&- F000 /3144 F00E B882 16 J884.&- F000 /3145 F00E 8882 N880 N880 N880 N886 J886.&- F000 /3146 F005 8882	LD A#/0000 Q#/0002 NOM A#/8000 Q#/0000 ZERO MITH /8000 BRANCH ON ZERO ACC NOT#/8000 ERR IO CK LOCK ON ERROR LOOP NOM A#/0000 Q#/8000 BRANCH ON ZERO Q REG NOT#0000 ERR IO CK LOCK ON ERROR LOOP STORE C\$XR 1m AT N880 LO C\$N880m ZERO WITH /FF01 BRANCH ON ZERO XR-1 NOT FF01 ERR IO CK LOCK ON ERROR	3A154070 3A154080 3A154090 3A154110 3A154110 3A154120 3A154130 3A154140 3A154140 3A154160 3A154170 3A154180 3A154190 3A154200 3A15420 3A15420 3A15420 3A15420 3A15420 3A15420 3A15420 3A15420 3A15420 3A15420 3A15420
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7O 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3 0E85 0 18D0 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E8B 0 4400 0F98 0E8D 0 70EA 0E8E 0 6938 0E8F 0 C037 0E9C 0 F400 0E04 0E92 0 4C18 0E97 0E94 0 4400 0F69 0E96 0 3146 0E97 0 4400 0FC4 0E99 0 70DE	J884 J884	LDO SLC EOR 8SI 8SI MDX RTE 8SI DC 8SI MDX STX LO 8SI MDX STX LO 8SI MDX STX LO 8SI LOR 8SI LOR 8SI BO 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI	1	N88A 0 N886 J882*&- F000 /3144 F00E B882 16 J884*&- F000 /3145 F00E 8882 N880 N880 N880 N880 N880 N886 J866*&- F000 /3146 F005 8882	LD A#/0000 Q#/0002 NOW A#/8000 Q#/0000 ZERO WITH /8000 BRANCH ON ZERO ACC NOT#/8000 ERR IO CK LOCK ON ERROR LOOP NOW A#/0000 Q#/8000 BRANCH ON ZERO Q REG NOT#0000 ERR IO CK LOCK ON ERROR LOOP STORE C\$XR 1  AT N880 LO C\$N880  ZERO LO C\$N880  ZERO XR-1 NOT FF01 BRANCH ON ZERO XR-1 NOT FF01 CK LOCK ON ERROR LOOP **********************************	3A154070 3A154080 3A154090 3A154100 3A154110 3A154120 3A154120 3A154140 3A154160 3A154160 3A154170 3A154180 3A154200 3A154200 3A154220 3A154220 3A154220 3A154230 3A154230 3A154230 3A154230 3A154230 3A154240 3A154280 3A154280 3A154280 3A154280 3A154280
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7O 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3 0E85 0 18D0 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E8B 0 4400 0F98 0E8C 0 6938 0E8F 0 C037 0E90 0 F400 0E04 0E92 0 4C18 0E97 0E94 0 4400 0F69 0E94 0 4400 0F69 0E96 0 3146 0E97 0 4400 0FC4 0E99 0 70DE	J882 J884 J886	LDO SLC EOR 8SC 8SI BOX RTE 8SC BSI MDX STX LO 8SI OC 8SI MDX STX LOR 8SC BSI MDX STX LOR 8SC BSI MDX STX LOR 8SC BSI MDX STX LOR 8SC BSI DC 8SC BSI BSI BSI BSI BSI BSI BSI BSI BSI BSI	1	N88A 0 N886 J882, &- F000 /3144 F00E B882 16 J884, &- F000 /3145 F00E 8882 N880 N880 N880 N88E J886, &- F000 /3146 F005 8882 ********************************	LD A#/0000 Q#/0002 NOW A#/8000 Q#/0000 ZERO WITH /8000 8RANCH ON ZERO ACC NOT#/8000 ERR ID CK LOCK ON ERROR LOOP NOW A#/0000 Q#/8000 8RANCH ON ZERO Q REG NOT#0000 ERR IO CK LOCK ON ERROR LOOP STORE C\$XR 1	3A154070 3A154080 3A154090 3A154100 3A154120 3A154120 3A154140 3A154140 3A154160 3A154160 3A154160 3A154180 3A154200 3A154200 3A154220 3A154220 3A154220 3A154220 3A154220 3A154220 3A154230 3A154240 3A154240 3A154280 3A154290 3A154290 3A154290 3A154290 3A154290 3A154290
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7O 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E85 0 18D0 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E88 0 4400 0F98 0E8D 0 70EA 0E8E 0 6938 0E8F 0 C037 0E90 0 F400 0E04 0E92 0 4C18 0E97 0E94 0 4400 0F69 0E94 0 4400 0F69 0E97 0 4400 0F64 0E97 0 4400 0FC4 0E99 0 70DE	J882 J884 J886	LDO SLC EOR 8SC 8SI BOX RTE 8SC BSI MDX STX LO 8SI STX LO 8SI WDX STX LO 8SI SC 8SI BOC 8SI BOC 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI	1	N88A 0 N886 J882, &- F000 /3144 F00E 8882 16 J884, &- F000 /3145 F00E 8882 N880 N880 N880 N886, &- F000 /3146 F005 8882 ********************************	LD A#/0000 Q#/0002 NOW A#/8000 Q#/0000 ZERO WITH /8000 8RANCH ON ZERO ACC NOT#/8000 ERR IO CK LOCK ON ERROR LOOP NOW A#/0000 Q#/8000 8RANCH ON ZERO Q REG NOT#0000 ERR IO CK LOCK ON ERROR LOOP STORE C\$XR 1  AT N880 LO C\$N880  ZERO WITH /FF01 8RANCH ON ZERO XR-1 NOT FF01 ERR IO CK LOCK ON ERROR LOOP  *********************************	3A154070 3A154080 3A154090 3A154110 3A154110 3A154120 3A154130 3A154140 3A154160 3A154160 3A154160 3A154210 3A154210 3A154220 3A154220 3A154220 3A154220 3A154230 3A154240 3A154260 3A154260 3A154260 3A154260 3A154270 3A154280 3A154280 3A154290 3A154290 3A154300 3A154310 3A154320
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7O 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3 0E85 0 18D0 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E88 0 4400 0F98 0E8D 0 70EA 0E8E 0 6938 0E8F 0 C037 0E90 0 F400 0E04 0E92 0 4C18 0E97 0E94 0 4400 0F69 0E94 0 4400 0F69 0E94 0 3146 0E97 0 4400 0FC4 0E99 0 70DE	J882 J884 J886	LDO SLC 8SC 8SCI BC 8SCI 8SCI 8SCI 8SCI 8SCI 8SCI 8SCI 8SC	1	N88A 0 N886 J882, &- F000 /3144 F00E 8882 16 J884, &- F000 /3145 F00E 8882 N880 N880 N88E J886, &- F000 6005 8882 ********************************	LD A#/0000 Q#/0002 NOM A#/8000 Q#/0000 ZERO MITH /8000 8RANCH ON ZERO ACC NOT#/8000 ERR IO CK LDCK ON ERROR LOOP NOM A#/0000 Q#/8000 8RANCH ON ZERO Q REG NOT#0000 ERR IO CK LOCK ON ERROR LOOP STORE C\$XR 1\$\t^{\text{I}}\$ AT N880 LO C\$\text{N880}\text{\text{I}}\$ ZERO WITH /FF01 8RANCH ON ZERO XR-1 NOT FF01 ERR IO CK LOCK ON ERROR LOOP **********************************	3A154070 3A154080 3A154090 3A154110 3A154110 3A154120 3A154130 3A154140 3A154140 3A154160 3A154160 3A154210 3A154210 3A154220 3A154220 3A154220 3A154240 3A154260 3A154260 3A154260 3A154260 3A154270 3A154280 3A154310 3A154310 3A154310 3A154330
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0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7O 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3 0E85 0 18D0 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E8B 0 4400 0F98 0E8D 0 70EA 0E8E 0 6938 0E8F 0 C037 0E90 0 F400 0E04 0E92 0 4C18 0E97 0E94 0 4400 0F69 0E94 0 4400 0F69 0E94 0 C835 0E98 0 611F 0E9C 0 11C0 0E9D 0 4802 0E9E 0 7003 0E9F 0 4400 0F69	J882 J884 J886	LDO SLC 8SCI 8SCI 8SCI 8SCI 8SCI 8SCI 8SCI 8SC	1	N88A 0 N886 J882*&- F000 /3144 F00E B882 16 J884*&- F000 /3145 F00E 8882 N880 N880 N880 N880 N880 N880 N880 S882 ***********************************	LD A#/0000 Q#/0002 NOW A#/8000 Q#/0000 ZERO WITH /8000 BRANCH ON ZERO ACC NOT#/8000 ERR IO CK LOCK ON ERROR LOOP NOW A#/0000 Q#/8000 BRANCH ON ZERO Q REG NOT#0000 ERR IO CK LOCK ON ERROR LOOP STORE C\$XR 1\$\text{st} AT N880 LO C\$\text{\$X\$}	3A154070 3A154080 3A154090 3A154110 3A154110 3A154120 3A154130 3A154140 3A154140 3A154160 3A154160 3A154210 3A154210 3A154220 3A154220 3A154220 3A154240 3A154260 3A154260 3A154260 3A154260 3A154270 3A154280 3A154310 3A154310 3A154310 3A154330
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0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7O 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3 0E85 0 18D0 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E8B 0 4400 0F98 0E8D 0 70EA 0E8E 0 6938 0E8F 0 C037 0E90 0 F400 0E04 0E92 0 4C18 0E97 0E94 0 4400 0F69 0E94 0 4400 0F69 0E94 0 C835 0E98 0 611F 0E9C 0 11C0 0E9D 0 4802 0E9E 0 7003 0E9F 0 4400 0F69	J882 J884 J886	LDO SLC 8SCI 8SCI 8SCI 8SCI 8SCI 8SCI 8SCI 8SC	1	N88A 0 N886 J882*&- F000 /3144 F00E B882 16 J884*&- F000 /3145 F00E 8882 N880 N880 N880 N880 N880 N880 N880 S882 ***********************************	LD A#/0000 Q#/0002 NOW A#/8000 Q#/0000 ZERO WITH /8000 BRANCH ON ZERO ACC NOT#/8000 ERR IO CK LOCK ON ERROR LOOP NOW A#/0000 Q#/8000 8RANCH ON ZERO Q REG NOT#0000 ERR IO CK LOCK ON ERROR LOOP STORE C\$XR 1  AT N880 LO C\$N880  ZERO XR-1 NOT FF01 BRANCH ON ZERO XR-1 NOT FF01 ERR IO CK LOCK ON ERROR LOOP **********************************	3A154070 3A154080 3A154090 3A154100 3A154110 3A154120 3A154120 3A154140 3A154160 3A154160 3A154170 3A154180 3A154200 3A154200 3A154200 3A154200 3A154200 3A154200 3A154280 3A154280 3A154280 3A154280 3A154300 3A154300 3A154300 3A154300 3A154300 3A154300 3A154300 3A154300 3A154300 3A154300 3A154300 3A154300 3A154300 3A154300 3A154300 3A154300 3A154360
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0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7O 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3 0E85 0 18D0 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E88 0 4400 0F98 0E8D 0 70EA 0E8E 0 6938 0E8F 0 C037 0E90 0 F400 0E04 0E92 0 4C18 0E97 0E94 0 4400 0F69 0E96 0 3146 0E97 0 4400 0F64 0E97 0 4400 0FC4 0E99 0 70DE  0E9A 0 C835 0E9B 0 611F 0E9C 0 11C0 0E9D 0 4802 0E9E 0 7003 0E9F 0 0400 0F69 0EA1 0 3147 0EA2 0 4400 0F98	J884 J886 ******	LDO SLC 8SI 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI	1	N88A 0 N886 J882, &- F000 /3144 F00E B882 16 J884, &- F000 /3145 F00E 8882 N880 N880 N88E J886, &- F000 /3146 F005 8882 ********************************	LD A#/0000 Q#/0002 NOW A#/8000 Q#/0000 ZERO WITH /8000 8RANCH ON ZERO ACC NOT#/8000 ERR IO CK LDCK ON ERROR LOOP NOW A#/0000 Q#/8000 8RANCH ON ZERO Q REG NOT#0000 ERR IO CK LOCK ON ERROR LOOP STORE C*XR I AT N880 LO C*N880 ZERO WITH /FF01 8RANCH ON ZERO XR-1 NOT FF01 ERR IO CK LOCK ON ERROR LOOP **********************************	3A154070 3A154080 3A154090 3A154110 3A154110 3A154120 3A154140 3A154140 3A154140 3A154160 3A154160 3A154210 3A154210 3A154220 3A154220 3A154220 3A154220 3A154230 3A154230 3A154230 3A154230 3A154230 3A154360 3A154360 3A154360 3A154370 3A154370 3A154370 3A154370 3A154370 3A154370
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E70 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3 0E85 0 18D0 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E88 0 4400 0F98 0E8D 0 70EA 0E8E 0 6938 0E8F 0 C037 0E90 0 F400 0E04 0E92 0 4C18 0E97 0E94 0 4400 0F69 0E94 0 4400 0F69 0E94 0 C835 0E9B 0 611F 0E9C 0 11C0 0E9D 0 4802 0E9E 0 7003 0E9F 0 4400 0F69 0EA1 0 3147 0EA2 0 4400 0F98 0EA1 0 3147 0EA2 0 4400 0F98 0EA4 0 70F5 0EA5 0 F026	J884 J886 ******	LDO SLC 8SI 8SI 8SI 8SI BOX 8SI BOX 8SI BOX 8SI BOX 8SI BOX 8SI BOX 8SI BOX 8SI BOX 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI	1	N88A 0 N886 J882.&- F000 /3144 F00E B882 16 J884.&- F000 /3145 F00E 8882 N880 N88E J886.&- F000 /3146 F005 8882 ********************************	LD A#/0000 Q#/0002 NOM A#/8000 Q#/0000 ZERO MITH /8000 BRANCH ON ZERO ACC NOT#/8000 ERR IO CK LOCK ON ERROR LOOP NOM A#/0000 Q#/8000 BRANCH ON ZERO Q REG NOT#0000 ERR IO CK LOCK ON ERROR LOOP STORE C\$XR I¤ AT N880 LO C\$N880¤ ZERO WITH /FF01 BRANCH ON ZERO XR-1 NOT FF01 ERR IO CK LOCK ON ERROR LOOP **********************************	3A154070 3A154080 3A154090 3A154110 3A154110 3A154120 3A154130 3A154140 3A154140 3A154160 3A154170 3A154180 3A154200 3A154210 3A154220 3A154220 3A154220 3A154220 3A154220 3A154230 3A154230 3A154230 3A154360 3A154360 3A154360 3A154360 3A154360 3A154360 3A154370 3A154380 3A154380 3A154380 3A154390
0E7A 0 C855 0E7B 0 11C0 0E7C 0 F04F 0E7D 0 4C18 0E82 0E7F 0 4400 0F69 0E81 0 3144 0E82 0 4400 0F98 0E84 0 70F3 0E85 0 18D0 0E86 0 4C18 0E88 0E88 0 4400 0F69 0E8A 0 3145 0E88 0 4400 0F98 0E8D 0 70EA 0E8E 0 6938 0E8F 0 C037 0E90 0 F400 0E04 0E92 0 4C18 0E97 0E94 0 4400 0F69 0E96 0 3146 0E97 0 4400 0F64 0E99 0 70DE  0E9A 0 C835 0E9B 0 611F 0E9C 0 11C0 0E9D 0 4802 0E9E 0 7003 0E9F 0 4400 0F69 0EA1 0 3147 0EA2 0 4400 0F98 0EA4 0 70F5 0EA5 0 F026 0EA6 0 4C18 0EA8	J884 J886 ******	LDO SLC 8SI 8SI 8SI 8SI 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI BC 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI 8SI	1	N88A 0 N886 J882.&- F000 /3144 F00E B882 16 J884.&- F000 /3145 F00E 8882 N880 N880 N886,&- F000 /3146 F005 8882 ********************************	LD A#/0000 Q#/0002 NOW A#/8000 Q#/0000 ZERO WITH /8000 BRANCH ON ZERO ACC NOT#/8000 ERR IO CK LOCK ON ERROR LOOP NOW A#/0000 Q#/8000 BRANCH ON ZERO Q REG NOT#0000 ERR IO CK LOCK ON ERROR LOOP STORE C\$XR 1m AT N880 LO C\$N880m ZERO WITH /FF01 BRANCH ON ZERO XR-1 NOT FF01 ERR IO CK LOCK ON ERROR LOOP **********************************	3A154070 3A154080 3A154080 3A154100 3A154110 3A154120 3A154130 3A154140 3A154150 3A154160 3A154170 3A154180 3A154200 3A154210 3A154220 3A154220 3A154220 3A154220 3A154220 3A154230 3A154230 3A154280 3A154280 3A154280 3A154360 3A154370 3A154380 3A154370 3A154380 3A154370 3A154380 3A154380 3A154370 3A154380 3A154380 3A154380 3A154380
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PAGE

CPU FUNCTION TEST

DATE

EC NO.

0EAA 0 3148 0EAB 0 4400 0F98						
DEAR 0 4400 DE98		DC		/3148	ERR ID	3A154420
	J888	851	L	F OOE	CK LOCK ON ERROR	3A154430
0EAD 0 70EC		MDX		8884	LOOP	3A154440
OEAE O 6DOO OEC7		STX	L1	N880	STORE XR 1 WITH C%N880D	3A154450
0EBO 0 C016		LD		N880	LD CIN880D	3A154460
0E81 0 F018		EOR		N884	ZERO WITH /0001	3A154470
OE82 O 4C18 OEB7		BSC	L	J889, E-	BRANCH ON ZERO	3A154480
OEB4 O 4400 OF69		851	L	F000	XR 1 NOT EQUAL 0001	3A154490
0E86 0 3149		DC		/3149	ERR ID	3A154500
OEB7 0 4400 OFC4	J889	BSI	L	F005	CK LOCK ON ERROR	3A154510
OEB9 O 70EO		MOX		8884	LOOP	3A154520
					******	3A154530
OEBA 0 611C	B885	LDX	1	28	LO XR 1 WITH /001C	3A154540
0E8B 0 C814 0EBC 0 1100		LDD Sla	,	N88A 0	LD A#/0000 Q#/0002 NOW A#/2000 Q#/0000	3A154550 3A154560
0E80 0 4802		BSC	•	č	SKIP IF CARRY OFF	3A154570
0E8E 0 7001		MDX		J88A	Shir ir Canni orr	3A154580
0EBF 0 7003		MDX		J88B		3A154590
0ECO 0 4400 0F69	<b>A88L</b>	BSI	L	F000	CARRY IS ON	3A154600
0EC2 0 314A	•••	DC	•	/314A	ERR 10	3A154610
OEC3 0 4400 OFC4	J88B	BSI	L	F005	CK LOCK ON ERROR	3A154620
OEC5 0 70F4		MDX		B885	LOOP	3A154630
0EC6 0 700F		MDX		88A0	EXIT TO NEXT ROUTINE	3A154640
0EC <b>7 0</b> 0000	N880	DC		/0000	STORAGE	3A154650
0EC8 0000		BSS	Ε			3A15466C
0EC8 0 0000	N882	DC		/0000		3A154670
OEC9 O FFFF		DC		/FFFF		3A1 54680
OECA 0 0001	N884	0C		/0001		3A154690
OECB 0 0010	N885	DC		/0010		3A154700 3A154710
0ECC 0 8000 0ECD 0 FFD0	N886 N887	DC OC		/8000 /FFD0		3A154720
0ECE 0 0000	N888	OC		/0000		3A154730
0ECF 0 0000	MODO	OC		/0000		3A154740
0ED0 0 0000	N88A	oc		/0000		3A154750
0ED1 0 0002	N888	DC		/0002		3A154760
	N88C	OC.		/0020		3A154770
OED3 O FFDF	N88D	DC		/FFOF		3A154780
0ED4 0 FF01	N88E	OC		/FF01		3A154790
OEDS O 7FFF	N88F	DC		/7FFF		3A154800
	****	****	***	*******	******	3A154810
	****	****	***	*******	******	3A154820
	*					3A154830
	*			TEST	COMPARE INSTRUCTION	3A154840
	*					3A154840 3A154850
	* *	_		ACCUMULATOR		3A154840 3A154850 3A154860
	*	Q	# .	ACCUMULATOR ACCUMULATOR	EXTENTION	3A154840 3A154850 3A154860 3A154870
	* * *	Q	#	ACCUMULATOR ACCUMULATOR WORD BEING	EXTENTION COMPAREO	3A154840 3A154850 3A154860 3A154870 3A154880
	* * * * *	Q	#	ACCUMULATOR ACCUMULATOR	EXTENTION COMPAREO	3A154840 3A154850 3A154860 3A154870
	* * * * * * * * * * * * * * * * * * * *	Q	#	ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORO	EXTENTION COMPAREO	3A154840 3A154850 3A154860 3A154870 3A154880 3A154890
	* * * * * * * * * * * * * * * * * * * *	Q	#	ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORO THE 1800 H	EXTENTION COMPAREO ON DCH	3A154840 3A154850 3A154860 3A154870 3A154880 3A154890 3A154900
	* * * * * * * * * *	Q	#	ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORO  THE 1BOO H 8UT THE 11 DETERMINES	EXTENTION COMPAREO ON DCH IAS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING	3A154840 3A154850 3A154860 3A154870 3A154880 3A154990 3A154910 3A154920 3A154930
	* * * * * * * * *	Q	#	ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORO  THE 1BOO H BUT THE 11 DETERMINES TESTED BEF	EXTENTION COMPAREO ON DCM  AS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE	3A154840 3A154850 3A154860 3A154880 3A154880 3A154990 3A154910 3A154910 3A154920 3A154930 3A154940
	*****	Q	#	ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORO  THE 1BOO H 8UT THE 11 DETERMINES	EXTENTION COMPAREO ON DCM  AS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE	3A154840 3A154850 3A154860 3A154880 3A154880 3A154990 3A154910 3A154910 3A154920 3A154940 3A154950
	******	Q	#	ACCUMULATOR ACCUMULATOR ACCUMULATOR WORD BEING 2ND WORD THE 1BOO H 8UT THE 11 DETERMINES TESTED BEF INSTRUCTIO	EXTENTION COMPAREO ON DCM  IAS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE NO.	3A154840 3A154850 3A154860 3A154870 3A154880 3A154890 3A154910 3A154910 3A154920 3A154940 3A154940 3A154940 3A154940
	******	Q	#	ACCUMULATOR ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORD  THE 1B00 H 8UT THE 11 DETERMINES TESTED BEF INSTRUCTIO	EXTENTION COMPAREO ON DCM  AS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE IN.  STERS ARE HAROWARE IN 1800	3A154840 3A154850 3A154860 3A154870 3A154880 3A154890 3A154910 3A154910 3A154920 3A154930 3A154940 3A154950 3A154950 3A154970
	******	Q	#	ACCUMULATOR ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORD  THE 1B00 H 8UT THE 11 DETERMINES TESTED BEF INSTRUCTIO	EXTENTION COMPAREO ON DCM  IAS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE NO.	3A154840 3A154850 3A154860 3A154870 3A154880 3A154890 3A154910 3A154920 3A154920 3A154940 3A154940 3A154950 3A154960 3A154960
	* * * * * * * * * * * * * * * * * * * *	Q M M	# # # # # # # # # # # # # # # # # # #	ACCUMULATOR ACCUMULATOR ACCUMULATOR MORD BEING # 2ND WORD  THE 1BOO H BUT THE 11 DETERMINES TESTED BEF INSTRUCTIO INDEX REGI AND CORE S	EXTENTION COMPAREO ON DCM  IAS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE IN.  STERS ARE HAROWARE IN 1800 STORAGE LOCATIONS IN 1130.	3A154840 3A154860 3A154860 3A154870 3A154880 3A154980 3A154910 3A154910 3A154920 3A154940 3A154940 3A154960 3A154970 3A154980 3A154990
	* * * * * * * * * * * * * * * * * * * *	Q M M	# #   #	ACCUMULATOR ACCUMULATOR ACCUMULATOR MORD BEING # 2ND WORD  THE 1BOO H BUT THE 11 DETERMINES TESTED BEF INSTRUCTIO INDEX REGI AND CORE S	EXTENTION COMPAREO ON DCM  AS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE IN.  STERS ARE HAROWARE IN 1800	3A154840 3A154860 3A154860 3A154880 3A154880 3A154990 3A154910 3A154910 3A154920 3A154930 3A154940 3A154960 3A154960 3A154980 3A154980 3A154980 3A154980
CORE OATA OR	* * * * * * * * * * * * * * * * * * * *	Q M M	# # # # # # # # # # # # # # # # # # # #	ACCUMULATOR ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORD  THE 1BOO H BUT THE 11 DETERMINES TESTED BEF INSTRUCTIO INDEX REGI AND CORE S	EXTENTION COMPAREO ON DCM  AS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE IN.  STERS ARE HAROWARE IN 1800 STORAGE LOCATIONS IN 1130.	3A154840 3A154860 3A154870 3A154880 3A154880 3A154990 3A154910 3A154920 3A154940 3A154940 3A154940 3A154960 3A154970 3A154980 3A155000 3A155000
CORE OATA OR ADDR INSTRUCTION	* * * * * * * * * * * * * * * * * * *	Q M M	# # # # # # # # # # # # # # # # # # #	ACCUMULATOR ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORD  THE 1800 M 8UT THE 11 DETERMINES TESTED BEF INSTRUCTIO INDEX REGI AND CORE S	EXTENTION COMPAREO ON DCM  IAS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE IN.  STERS ARE HAROWARE IN 1800 STORAGE LOCATIONS IN 1130.	3A154840 3A154850 3A154860 3A154880 3A154880 3A154890 3A154910 3A154910 3A154920 3A154930 3A154950 3A154950 3A154960 3A154980 3A154980 3A155010 3A155010
CORE OATA OR ADDR INSTRUCTION	* * * * * * * * * * * * * * * * * * *	Q M M	# # # # # # # # # # # # # # # # # # #	ACCUMULATOR ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORD  THE 1800 M 8UT THE 11 DETERMINES TESTED BEF INSTRUCTIO INDEX REGI AND CORE S	EXTENTION COMPAREO ON DCM  AS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE IN.  STERS ARE HAROWARE IN 1800 ITORAGE LOCATIONS IN 1130.	3A154840 3A154850 3A154860 3A154880 3A154880 3A154890 3A154910 3A154910 3A154920 3A154940 3A154950 3A154950 3A154960 3A154960 3A154980 3A154980 3A155010 3A155010
CORE OATA OR ADDR INSTRUCTION	* * * * * * * * * * * * * * * * * * *	Q M M M M M M M M M M M M M M M M M M M	; # i # i &1 i &1 i &1 i &1 i &1 i &1 i &1 i &1	ACCUMULATOR ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORD  THE 1B00 M 8UT THE 11 DETERMINES TESTED BEF INSTRUCTIO  INDEX REGI AND CORE S  ***********************************	EXTENTION COMPAREO ON DCM  IAS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE IN.  STERS ARE HAROWARE IN 1800 STORAGE LOCATIONS IN 1130.	3A154840 3A154860 3A154880 3A154880 3A154880 3A154990 3A154910 3A154910 3A154920 3A154930 3A154940 3A154960 3A154970 3A154980 3A154980 3A155030 3A155030 3A155030 3A155030
CORE OATA OR ADDR INSTRUCTION ************************************	* * * * * * * * * * * * * * * * * * *	Q M M M M M M M M M M M M M M M M M M M	; # i # i &1 i &1 i &1 i &7 i &7	ACCUMULATOR ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORD  THE 1B00 H 8UT THE 11 DETERMINES TESTED BEF INSTRUCTIO INDEX REGI AND CORE S ************************************	EXTENTION COMPAREO ON DCM  AS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE IN.  STERS ARE HAROWARE IN 1800 STORAGE LOCATIONS IN 1130.	3A154840 3A154860 3A154880 3A154880 3A154880 3A154990 3A154910 3A154910 3A154920 3A154930 3A154940 3A154960 3A154970 3A154980 3A154980 3A155030 3A155030 3A155030 3A155030
CORE OATA OR ADDR INSTRUCTION ************************************	* * * * * * * * * * * * * * * * * * *	Q M M M M M M M M M M M M M M M M M M M	*****   #	ACCUMULATOR ACCUMULATOR ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORD  THE 1BOO H 8UT THE 11 DETERMINES TESTED BEF INSTRUCTIO INDEX REGI AND CORE S ************************************	EXTENTION COMPAREO ON DCM  IAS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE IN.  STERS ARE HAROWARE IN 1800 STORAGE LOCATIONS IN 1130.  ***********************************	3A154840 3A154860 3A154860 3A154880 3A154880 3A154990 3A154910 3A154920 3A154920 3A154940 3A154950 3A154960 3A154970 3A154980 3A155000 3A155030 3A155030 3A155030 3A155030 3A155030
CORE OATA OR ADDR INSTRUCTION ************************************	* * * * * * * * * * * * * * * * * * *	Q M M M M M M M M M M M M M M M M M M M	**************************************	ACCUMULATOR ACCUMULATOR ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORD  THE 1B00 H 8UT THE 11 DETERMINES TESTED BEF INSTRUCTIO  INDEX REGI AND CORE S  ***********************************	EXTENTION COMPAREO ON DCM  AS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE N.  STERS ARE HAROWARE IN 1800 STORAGE LOCATIONS IN 1130.  ***********************************	3A154840 3A154860 3A154880 3A154880 3A154880 3A154990 3A154910 3A154920 3A154940 3A154940 3A154970 3A154970 3A154980 3A155000 3A155000 3A155000 3A155000 3A155040 3A155060 3A155060 3A155060 3A155060 3A155080
CORE OATA OR ADDR INSTRUCTION ************************************	* * * * * * * * * * * * * * * * * * *	Q M M M M M OPER-ATION SRA STO LDX LD	**************************************	ACCUMULATOR ACCUMULATOR ACCUMULATOR ACCUMULATOR WORD BEING # 2ND WORD  THE 1BOO H 8UT THE 11 DETERMINES TESTED BEF INSTRUCTIO INDEX REGI AND CORE S ************************************	EXTENTION COMPAREO ON DCM  IAS A COMPARE INSTRUCTION 30 DOES NOT. THIS ROUTINE WHICH MACHINE IS BEING ORE ATTEMPTING A COMPARE IN.  STERS ARE HAROWARE IN 1800 STORAGE LOCATIONS IN 1130.  ***********************************	3A154840 3A154860 3A154870 3A154880 3A154880 3A154990 3A154910 3A154920 3A154940 3A154940 3A154940 3A154960 3A154970 3A154980 3A155000 3A155000 3A155000 3A155030 3A155040 3A155050 3A155050 3A155050 3A155050 3A155050

02JAN66 01MAY66 15NOV66 15FEB68 26AUG6B

415490C 419643 420403 42**0**403A

EDF		_			CMP		OABA	A GREATER THAN M	3A1551
		7004			MDX		J8AO		3AI551
		1000			SLA		0	A LESS THAN M	3A1551
EE2	0	4400	0F69		851	L	F000	A GREATER THAN M FAILED	3A1551
EE4	0	314B			DC		/3148	ERR ID	3A1551
EE5	0	4400	0F98	J8A0	BSI	L	F00E	CK LUCK ON ERROR	3A1551
EE7	0	70E E			MDX	_	B8A0	LOOP	3A1551
		F068			EOR		N8A2	ZERO WITH /4000	3A1551
			OEF1		8 S C				3A1551
			0F69		BSI				
EED			UF 67			L		ALL LMANGED ERRUR	3A1551
			0564		DC		/314C	ERR ID	3A1552
			OFC4		BSI	L	F005		3A1552
)EFO	0	70E 5			MDX		8BAO	4001	3A1552
				****		***		**********	3A1552
)EF1	0	C063		B8AI	LD		N8A0	NRAD #/DDDD	3A1552
EF2	0	BO5D			CMP		N8A1	N8A1 #/1000	3A1552
EF3	0	7001			MDX		J8A2		3A1552
EF4	0	7003			MDX		J8A1	A LESS THAN M	3A1552
EF5	0	4400	0F69	J8A2	851	L	F000		3A1552
		314D			DC	-	/314D	ERR 1D	3A1552
		4400	DEC4	JSA1	BSI	L		= - =	3A1553
		70F6	0.01		MDX	•	88A1		3A1553
EFA	U	1016							
ECD		C050				~~ ~ ;			3A1553
		C059		B8A2	LD		NBAO		3A1553
	-	B055			CMP		N8A3		3A1553
		7001			MDX		J8A4		3A1553
		7003			MDX		J8A3	A LESS THAN M	3A1553
EFF	0	4400	0F69	J8A4	8 S I	L	F000	A LESS THAN M FAILED	3A1553
F01	0	314E			DC		/314E	ERR ID	3A1553
F02	0	4400	OFC4	J8A3	BSI	L	F005	CK LOCK ON ERROR	3A1553
F04	0	70F6			MDX		B8A2		3A1554
	-			****	****	***			3A1554
FO5	O	CO4F		B8A3	LD		N8A0	N8AO #/0000	3A1554
		BO4A		0043	CMP		N8A2		3A1554
		7001			MDX			HOME BY TOOU	3A1554
							J8A6		
		7003			MDX		J8A5	A LESS THAN M	3A1554
	-		0F69	JUAG	BSI	L	F000		3A1554
		314F			DC		/314F	ERR ID	3A1554
		4400		JB#5		L	_		3A1554
FOE	0	70F6			MDX		B8A3	LOOP	3A1554
				****	****	***			3A1555
FOF	0	C044		B8A4	LD		N8C5	LD /8000	3A1555
F10	0	B044			CMP		NBAO	COMPARE CENSAGE /0000	3A1555
F11	0	7001			MOX		J8A8	A LESS THAN M FAILED	3A1555
F12	0	7003			MDX		J8A7	A LESS THAN M	3A1555
			0F69	18A8	BS I	L	F000	A LESS THAN M FAILED	3A1555
		3150			DÇ.	-	/3150		3A1555
		4400	OFC4	JBA7	BSI	Ł			3A1555
		70F6	J. J.	3041	MDX	-	B8A4	LOOP	3A1555
10	v	1450		***		***			3A1555
C10	^	C03/				~ <del>~</del> ~			3A1556
-		C036		88A5	LD		N8A1		
		8035			CMP		N8A1	CMP /1000	3A1556
		7002			MDX		JAAA	A EQUAL M FAILED	3A1556
		7001			MDX		AASL	A EQUAL M FAILED	3A1556
		7003			MOX		J8A9	A#M	3A1556
FIE	0	4400	0F69	AABL	BSI	L	F000	A#M FAILEO	3A1556
)F20	0	3151			DC		/3151	ERR IO	3A1556
			OFC4	J8A9	851	L	F005	CK LOCK ON ERROR	3A1556
		70F 5			MDX		BBA5	LOOP	3A1556
	_			****		***		**********	3A1556
				*					3A1557
				*			TEST	OOUBLE COMPARE	3A1557
				•			1631	AAAAFE CAULANE	3A1557
	٠.								
								******************	
			A OR	*LA-	UPER-				3A1557
ORE				*R FI	ATION	FT	OPERANDS &	REMARKS IDESEQ# AT RIGHT	3A 1557
ORE		INS	INUCTION	· DEE					
ORE ADDR	***	****	********	***** 88C0	****			LD A#/8000 Q#/0001	

02JAN66 01MAY66 15NOV66 15FEB68 26AUG68

415490 415490C 419643 420403 420403A

0F25					DCM		N8C 5	AQ GREATER THAN M, ME1	3A155780
0F26					MOX		<b>18C0</b>		3A155790
0F27					SLA		0	NO-OP	3A155800
0F28 0F29					8SI OC		F000 /3152	FAILEO A,Q NOT GREATER ERR IO	3A155810
			0F98	J8CO	BSI	L	FOOE	CK LOCK ON ERROR	3A155B20 3A155B30
0F2C			0170	3000	MOX	_	8800	LOOP	3A155B40
0F20					EOR		N8C6 ,	ZERO WITH /8000	3A155850
OF2E		_	0F32		8 SC	L	J8C1, &-	BRANCH ON ZERO	3A155860
0F30					BS1	_	F000	ACC CHANGEO	3A155870
0F31	0	3153			OC		/3153	ERR IO	3A155880
0F32			0F98	J8C1	128	L	FOOE	CK LOCK ON ERROR	3A155890
0F34					MOX		BBCO	LOOP	3A155900
0F35					RTE		16	NOW A#/0001 Q#/0000	3A155910
0F36			0500		EOR		N8C661	ZERO WITH /0001	3A155920
0F37 0F39	_		0138		8SC	L	J8C2,&-	BRANCH ON ZERO	3A155930
OF3A					8 S I		F000 /3154	Q REG CHANGED ERR 10	3A155940 3A155950
0F 38			OFC4	J8C2	8S1	L	F005	CK LOCK ON ERROR	3A155960
0F30			0,04	5002	MOX	-	8800	LOOP	34155970
	_			****		***		******	3A1559B0
OF 3E	0	C819		88C1	LOO		N8C7	LO A#/0000 Q#/8000	3A155990
OF3F	0	AISS			OCM		N8C8	A,Q LESS THAN M, ME1	3A156000
0F40	0	7001			MOX		J8C3	A,Q GREATER THAN M,M&1	3A156010
0F41					MOX		J8C4	A,Q LESS THAN M,ME1	3A156020
0F42	_			J8C3	851		F000	FAILEO A,Q GREATER	3A156030
0F43	_				OC		/3155	ERR IO	3A156040
0F44	_			J8C4	8S I		F005	CK LOCK ON ERROR	3A156050
0F45	0	7018		****	MOX		88C1	LOOP	3A156060
0F46	^	C011				***	N8C7	++++++++++++	3A156070
0F47				88C2	OCM		NBC7	LO A#/0000 Q#/8000 A,Q EQUQL M.M&1	3A156080
0F48					MOX		J8C5	A,Q GREATER	3A156090 3A156100
0F49					MOX		J8C5	A.Q LESS	3A156110
OF4A		_			MOX		J8C6	A,Q # M,ME1	3A156120
OF4B	0	4010		J8C 5	851		F000	A,Q # M,ME1 FAILED	3A156130
OF4C	0	3156			oc		/3156	ERR IO	3A156140
0F40				<b>J8C6</b>	8S I		F005	CK LOCK ON ERROR	3A156150
OF4E					MOX		8 8C 2	LOOP	3A156160
OF4F					MOX		W8CO	EXIT TO NEXT ROUTINE	3A156170
0F50				N8A1	OC.		/1000		3A156180
0F51				N8A2	0C		/4000		3A156190
0F52 0F54	U	0000		N8A3	0C 8SS	E	/2000		3A156200
0F54	Λ	_		N8C5	DC	C	0 /8000		3A156210
0F55				NBAO	00		/0000	•	3A156220 3A156230
0F56	_			N8C6	oc		/8000		3A156240
0F57	0	0001			oc.		/0001		3A156250
0F58	0	0000		N8C7	OC		/0000		3A156260
0F59	0	8000			0C		/8000		3A156270
OF5A	0	0000		N8C8	OC.		/0000		3A156280
0F58	0	8001			OC		/8001		3A156290
								*****	3A156300
				*****	*****	***	*********	************************	3A156310
CORE		OATA		*LA-		+++	******		
AOOR				_		ET	OPERANOS &	REMARKS TOESEQ# AT RIGHT	3A156330
****	**							**************************************	3A156350
OF5C		0809		W8C0			NBC 1	READ SWITCHES	3A156360
0F50				_	LO		N8C3	LO SW BITS	3A156370
OF5E					SRA		4	PLACE SW 11 AT BIT 15 POS.	
OF 5F					8SC		E	IS SWITCH 11 ON	3A156390
0F60					MOX		W8C4	SWITCH 11 ON	3A156400
0F61				V C C =	LO		2020	SWITCH 11 IS OFF-WAIT	3A156410
0F62 0F63			015/	X007	000		/3003	PROGRAM FINISHEO	3A156420
0F65	_		0124	W8C4	850	L	A140		3A156430
0F66	U	0000		2020	0C 8S <b>S</b>	Ε	/0003		3A156440
J. 00		3000			033	C			3A156450

AE / 7		0F68		N8C1	OC		N8C3		3A15646
ur 6 /	0	0240		N8C2	OC		/0240	EQUAL /3A00 IN 1130	3A15647
0F68	0	0000		N8C3	OC		/0000		3A15648
				*					3A15649
				*					3A15650
				****	*****	**	******	*******	3A15651
				*					3A15652
				*			ER	ROR CONTROL ROUTINE	3A15653
	_			*					3A15654
		0000		F003	00		0	REENTER ADDRESS	3A15655
		2816 0063			STS		FUOX	SAVE STATUS	3A15656
	_	1800			STO		U000	SAVE A REG	3A15657
	_	D062			RTE		16	CAUE O DEC	3A15658
	_	0863			STO XIO		U001 F003	SAVE O REG READ SWITCHES	3A15659
		C065			LO		Z000		3A15660
	_	1807			SRA		7	LO SW READINGS PLACE SW 8 AT 8IT PDS 15	3A15661
		4804			8SC		Ė	CK LOOP ON INSTRUCTION	3A15662 3A15663
		7012			MOX		FOOA	* BEING TESTED SW	3A15664
		C480	0F69		LO	1	F000	GET WAIT ERROR ID	3A15665
. –		0000			STO	•	F002	STORE ERROR 10 AT FOO2	3A15666
0F76	0	COF2			LO		F000	GET RETURN ADOR	3A15667
0F77	Ō	001F			STO		U008	STORE AT UOOB	3A15668
OF7B	0	805B			A		U006	ADO ONE	3A15669
0F79	0	OOEF			STO		F000	STORE NEW RETURN ADDRESS	3A15670
OF7A	0	CO5A		FOOL	LO		Z O O O	CK BYPASS ERROR SW	3A15671
0F78	0	1801			SRA		1	PLACE SW 14 AT 81T POS 15	3A15672
		4804			8SC		E	SKIP IF SW 14 OFF	3A15673
0F70	0	7000			MOX		F00F	CK FOR 8 OR 12 ON ALSO	3A15674
		C051			LO		U001	RESTURE REG AND WAIT	3A15675
OF7F	0	1800			RTE		16	PLACE IN Q REG	3A15676
		CO4E			LO		U000	RESTORE A REG	3A15677
		2000		FOOX	LOS		0	RESTORE C AND OF INO.	3A1567E
0F82	0	3000		F002	TIAW		0	ERROR WAIT 8 REG	3A15679
	_			*				* SHOWS ERROR TO	3A15680
0F83	0	4C80	0F69	F00B	BSC	I	F000	EXIT FROM ROUTINE	3A15681
				*				* C%F000=IS NOW DNE	3A15682
			•	*				* GREATER THAN AT THE	3A15683
				-				* BEGINNING OF ROUTINE	3A15684
									3A15685
				-					3A15686
				Ī				AD ON INCTONCTION OF INC	3A15687
				-				OP ON INSTRUCTION BEING	2435/00
							*	TECTEN	3A15688
				ï			*	TESTEO	3A15689
****		****	******	*	*****	***			3A15689
	***					***		TESTE0	3A15689 3A15690 3A15691
CORE	***	OAT	A OR	*LA-	OPER-		******	*******************	3A15690 3A15690 3A15691 3A15692
CORE Ador		OAT	A OR TRUCTION	*LA-	OPER-		******		3A15689 3A15690 3A15691 3A15692 3A15693
CORE Ador *****	***	OAT/	A OR TRUCTION	*LA- *8EL *****	OPER- ATION *****		OPERANOS	**************************************	3A15690 3A15690 3A15691 3A15692 3A15693
CORE ADOR ***** DF85	• • •	OAT/ INS' ***** COE3	A OR TRUCTION	*LA- *8EL	OPER- ATION ****** LO		OPERANOS	\$ & REMARKS	3A15690 3A15691 3A15692 3A15693 3A15694 3A15695
CORE ADOR ***** DF85 DF86	0	0AT/ 1NS: :****	A OR TRUCTION	*LA- *8EL *****	OPER- ATION ****** LO STO		OPERANOS	G REMARKS IO&SEQ# AT RIGHT  GET RETURN ADOR AT FOOD  STORE RETURN AOORESS	3A15690 3A15690 3A15691 3A15692 3A15693
CORE ADOR ***** DF85 DF86 DF87	0 0	OAT/ INS' ***** COE3 OO10	A OR TRUCTION	*LA- *8EL *****	OPER- ATION ****** LO STO A		OPERANOS ******** FOOO UOOB	& REMARKS IO&SEQ# AT RIGHT ************************************	3A15690 3A15691 3A15692 3A15693 3A15694 3A15695 3A15696
CORE ADOR ***** DF85 DF86 DF87 DF88	0 0 0 0	OAT/ INS ****** COE3 OO10 8000	A OR TRUCTION *******	*LA- *8EL *****	OPER- ATION ****** LO STO A STO		*********  OPERANOS  *******  F000  U00B  U003	G REMARKS IO&SEQ# AT RIGHT  GET RETURN ADOR AT FOOD  STORE RETURN AOORESS	3A15689 3A15691 3A15692 3A15693 3A15694 3A15695 3A15696
CORE ADOR ***** DF85 DF86 DF87 DF88	0 0 0 0	OAT/ INS ***** COE3 0010 8000 00E0	A OR TRUCTION *******	*LA- *8EL *****	OPER- ATION ****** LO STO A STO	FT •**	OPERANOS ************ F000 U008 U003 F000	& REMARKS IO&SEQ# AT RIGHT  ***********************************	3A15689 3A15691 3A15692 3A15693 3A15694 3A15696 3A15697 3A15697 3A15698
CORE ADOR ***** DF85 DF86 DF87 DF88 DF89	0 0 0 0	OAT/ INS ***** COE3 0010 8000 00E0	A OR TRUCTION *******	*LA- *8EL *****	OPER- ATION ****** LO STO A STO	FT •**	OPERANOS ************ F000 U008 U003 F000	GERMARKS IOGSEQ# AT RIGHT  SET RETURN ADOR AT FOOD  STORE RETURN ADORESS  A00 3  UPOATE RETURN ADORESS  BR TO UPOATAO ADORESS	3A15693 3A15693 3A15693 3A15693 3A15693 3A15695 3A15693 3A15693 3A15693 3A15693
CORE ADOR ***** DF85 0F86 DF87 DF88 DF89	0 0 0 0	OAT/ INS' ****** COE3 0010 8000 00E0 4C80	A OR TRUCTION *******	*LA- *8EL ***** FOOA	OPER- ATION ****** LO STO A STO 8SC	FT •**	OPERANOS *********** F000 U00B U003 F000 F000	GET RETURN ADDRESS AOO 3 UPOATE RETURN ADDRESS BR TO UPOATAO AOORESS CK FOR SW 8 OR 12	3A15690 3A15691 3A15692 3A15693 3A15693 3A15696 3A15696 3A15696 3A15690 3A15700
CORE ADOR +**** DF85 DF86 DF87 DF88 DF89 DF89	0 0 0 0 0 0	OATA INST COE3 0010 8000 00E0 4C80	A OR TRUCTION *******	*LA- *8EL ***** FOOA	OPER- ATION ****** LO STO A STO 8SC	FT •**	OPERANOS ********** F000 U008 U003 F000 F000	GET RETURN ADORESS A00 3 UPOATE RETURN ADORESS BR TO UPOATAO AOORESS CK FOR SN 8 OR 12 PLACE SN 12 AT 81T POS 15	3A15692 3A15692 3A15692 3A15693 3A15693 3A15696 3A15696 3A15696 3A15696 3A15696 3A15696 3A15696 3A15696
CORE AOOR ****** 0F85 0F86 0F87 0F88 0F89 0F88	000000000000000000000000000000000000000	OATA INS: COE3 0010 8000 00E0 4C80 1802 4804	A OR TRUCTION *******	*LA- *8EL ***** FOOA	OPER- ATION ******* LO STO A STO 8SC SRA 8SC	FT •**	OPERANOS ******* F000 U00B U003 F000 F000	GET RETURN ADORESS AOO 3 UPOATE RETURN ADORESS BR TO UPOATAO AOORESS CK FOR SW 8 OR 12 PLACE SW 12 AT 81T POS 15 SKIP IF SW 12 OFF	3A15690 3A15690 3A15690 3A15690 3A15690 3A15690 3A15690 3A15690 3A15690 3A15700 3A15700 3A15700 3A15700
CORE ADOR ****** DF85 DF87 DF88 DF89 DF88 DF80 DF80 DF80 DF80	0 0 0 0 0 0 0 0	OAT/ INS******* COE3 0010 8000 00E0 4C80 1802 4804 70F5	A OR TRUCTION *******	*LA- *8EL ***** FOOA	OPER- ATION ******* LO STO A STO 8SC SRA 8SC MOX	FT •**	*********  OPERANOS  ********  FO00  U00B  U003  F000  F000  2  E  F008	GE REMARKS IOGSEO# AT RIGHT  THE PROPERTY OF T	3A15696 3A15696 3A15696 3A15696 3A15696 3A15696 3A15696 3A15696 3A15696 3A15706 3A15706 3A15706
CORE ADOR ****** DF85 DF87 DF88 DF89 DF88 DF80 DF86 DF86 DF86 DF86 DF86	0000000000	OAT/ INS ****** COE3 0010 8000 00E0 4C80 1802 4804 70F5 1804	A OR TRUCTION *******	*LA- *8EL ***** FOOA	OPER-ATION ****** LO STO A STO BSC SRA BSC MOX SRA	FT •**	********  OPERANOS  *******  FO00  U00B  U003  F000  F000  2  E  F008	S & REMARKS IO&SEQ# AT RIGHT  ***********************************	3A15693 3A15693 3A15693 3A15693 3A15693 3A15693 3A15693 3A15693 3A15703 3A15703 3A15703 3A15703
CORE ADOR ****** 0F85 0F86 0F87 0F88 0F89 0F80 0F80 0F8E 0F8F	****	OAT/ INS ****** COE3 0010 8000 00E0 4C80 1802 4804 70F5 1804 4804	A OR TRUCTION *******	*LA- *8EL ***** FOOA	OPER-ATION ****** LO STO A STO BSC SRA BSC MOX SRA BSC	FT •**	********  OPERANOS  *******  F000  U008  U003  F000  F000  2  E  F008  4	GET RETURN ADOR AT FOOD STORE RETURN ADORESS AOO 3 UPOATE RETURN ADORESS BR TO UPOATAO AOORESS CK FOR SW 8 OR 12 PLACE SW 12 AT 81T POS 15 SKIP IF SW 12 OFF 8R TO EXIT IF SW 12 ON PLACE SW 8 AT 81T POS 15 SKIP IF SW 8 OFF	3A15696 3A15696 3A15696 3A15696 3A15696 3A15696 3A15696 3A15696 3A15700 3A15700 3A15700 3A15700 3A15700 3A15700
CORE ADOR +**** 0F85 0F86 0F87 0F88 0F89 0F80 0F80 0F86 0F80 0F86 0F87	***	OAT/ INS: ************************************	A OR TRUCTION *******	*LA- *8EL ***** FOOA	OPER- ATION ****** LO STO A STO BSC SRA BSC MOX SRA BSC MOX	FT •**	*********  OPERANOS  ********  FO00  U008  U003  F000  F000  2  E  F008  4  E  F008	G REMARKS IO&SEQ# AT RIGHT  ***********************************	3A15696 3A15696 3A15696 3A15696 3A15696 3A15696 3A15696 3A15696 3A15706 3A15706 3A15706 3A15706 3A15706 3A15706 3A15706
CORE ADOR ***** DF86 DF87 DF88 DF89 DF8C DF8E DF8C DF8E DF90 DF91	***	OAT/ INS: ******* COE3 0010 8000 00E0 4C80 1802 4804 70F5 1804 4804 70F2 CO43	A OR TRUCTION *******	*LA- *8EL ***** FOOA	OPER- ATION ****** LO STO A STO 8SC SRA 8SC MOX SRA 8SC MOX LO	FT •**	*********  OPERANOS  ********  FO00  U008  U003  F000  F000  2  E  F008  4  E  F008	GERMARKS IOESEO# AT RIGHT  ***********************************	3A15690 3A15691 3A15692 3A15693 3A15694 3A15696 3A15696 3A15697 3A15698
CORE ADOR ***** DF85 DF86 DF88 DF89 DF80 DF8C DF80 DF91 DF91 DF92 DF93	***	OAT/ INS' ************************************	A OR TRUCTION *******	*LA- *8EL ***** FOOA	OPER- ATION ******* LO STO 8SC SRA 8SC MOX SRA 8SC MOX SRA 0C UO OC	FT •**	OPERANOS ********** F000 U00B U003 F000 F000 2 E F008 4 E F00B Z000	GE REMARKS IOESEO# AT RIGHT  ***********************************	3A15693 3A15693 3A15693 3A15693 3A15696 3A15696 3A15696 3A15696 3A15700 3A15700 3A15700 3A15700 3A15700 3A15700 3A15700 3A15700 3A15700 3A15700
CORE ADOR ****** OF86 OF88 OF88 OF88 OF8C OF8E OF91 OF92 OF94	****	OAT/ INS' ************************************	A OR TRUCTION *******	*LA- *8EL ***** FOOA	OPER-ATION ************************************	FT •**	********  OPERANOS  ********  FO00  U00B  U003  F000  F000  2  E  F008  4  E  F00B  Z00G	GE REMARKS IOESEO# AT RIGHT  ***********************************	3A15693 3A15693 3A15693 3A15693 3A15696 3A15696 3A15696 3A15696 3A15700 3A15700 3A15700 3A15700 3A15700 3A15700
CORE ADOR ***** 0F887 0F887 0F889 0F880 0F880 0F890 0F91 0F93 0F945 0F96	*********************	OAT/ INS: ****** COE3 0010 8000 00E0 4C80 1802 4804 70F5 1804 4804 70F2 CO43 0000 083E 70E5	A OR TRUCTION *******	*LA- **8EL ****** FOOA	OPER-ATION ******** LO STO A STO 8SC SRA 8SC MOX SRA 8SC MOX LO C XIO MOX	FT •**	********  OPERANOS  ********  FO00  U008  U003  F000  E  F008  F  F008  F  F008  FO0B  Z  FOOB  FOOD  FOOD	GERMARKS IOESEQ# AT RIGHT  ***********************************	3A15693 3A15693 3A15693 3A15693 3A15693 3A15693 3A15693 3A15693 3A15703 3A15703 3A15703 3A15703 3A15704 3A15705 3A15706 3A15707 3A15708

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	****	*****	****	*********	******	3A157150
	*					3A157160
	*			LOCK	ON ERROR RT	3A157170
	*					3A157180
***********	*****	*****	***1	********	*****************	3A157190
CORE DATA OR	*LA-	OPER-		-		3A157200
AODR INSTRUCTION						
*****			***1	******	***************	3A157220
0F98 0 0000	FOOE	DC		0	CONTAINS RETURN ADORESS	3A157230
0F99 0 281A		STS		F00H	SAVE REGS C AND OF	3A157240
OF9A O DO38		STO		UOOX	ACCUMULATOR	3A157250
0F9B 0 1BD0		RTE		16	ACC EXTENTION	3A157260 3A157270
OF9C O DO3A	*	STO		UOOX E1	ACC EXTENTION	3A1572B0
	•	*****	***	******	*********	3A157290
				RESTART	*	3A157300
		JC . U.		· ········		3A157310
		TO RES	TAR	T PRESS	STOP, RESET AND START. *	3A157320
	*				*	3A157330
OF9D O CO3A		LD		RST1	LD /6004	3A157340
	*					3A157350
OF9E O D400 0000		STO	L	/0000	STO IN WORD ZERO	3A157360
	*				*	3A157370
OFAO O C038		LD		RST2	LO /4C00	3A157380
	*				*	3A157390
OFA1 0 0400 0004		STO	L	/0004	STO IN WORD FOUR	3A157400
05.17 0 6027	*			007001	*	3A157410
OFA3 0 CO36	*	LO		RST2&1	LD /012C	3A157420 3A157430
0544 0 0400 0005	•	STO		/0005	STO IN MORO FIVE	3A157440
OFA4 0 0400 0005	*	310	L	70005	\$10 IN MOKO PIVE	3A157450
	****	*****	***:	********	********	3A157460
OFA6 0 0828		XIO		F003	READ SWITCHES	3A157470
OFAT O COZD		ĹĎ		2000	CK LOOP ON INST BEING	3A157480
OFA8 0 1807		SRA		7	* TESTEO SW	3A157490
OFA9 0 4804		8 SC		E	SKIP IF EVEN	3A157500
0FAA 0 700A		MOX		F008	EXIT TO LOOP INST	3A157510
OFA8 O COEB		LO		U008	CK IF ERROR HAS	3A157520
OFAC 0 4820		BSC		2	* OCCURREO	3A157530
OFAD 0 7009		MDX		F009		3A157540
OFAE O COE9	FOOK	LD		FOOE	GOT RETURN ADDR	3A157550
OFAF 0 8024		A		U006	ADD ONE	3A157560
0F80 0 D0E7		STO		FOOE	STORE RETURN ADORESS	3A157570
OF81 0 CO25		LD		13X00U	RESTORE REGS	3A157580
OF82 O 18DO		RTE		16 U00 X		3A157590 3A157600
OFB3 O CO22 OF84 O 2000	FOOH	LD LDS		0	SET C AND OF OFF	3A157610
0F85 0 4C80 0F98	F008		1	FOOE	8R TO RETURN ADDRESS	3A157620
0F87 0 CO1D	F009	_	•	2000	CHECK LOCK ON ERROR SW	3A157630
0F88 0 1803		SRA		3	SHIFT BIT 12 TO POS 15	3A157640
0F89 0 4804		8SC		Ē	SKIP IF OFF	3A157650
OF8A 0 7003		MOX		FOOC	ERROR SW \$8 120 ON	3A157660
OF88 0 1810		SRA		16	RESET ERROR OCCURRED	3A157670
OF8C O DODA		STO		U008	* CONTROL	3A157680
0F80 0 70F0		MOX		FOOK	BR TO GET RETURN ADDRESS	3A157690
OF8E O COO9	FOOC	LO		FOOE	GOT ADOR	3A157700
0F8F 0 80D6		A		AOOU	ADD MINUS THREE	3A157710
0FC0 0 F <b>0</b> 06		E OR		U008	COMPARE TO ERR CONTR	3A157720
	*	0.00			* ADDR	3A157730
0FC1 0 4820		8SC		Z	SKIP ON ZERO	3A157740
0FC2 0 70E8 0FC3 0 70F1		HOX		FOOK	BR TO GET RETURN ADORESS EXIT	3A157750
OFCS O FOFI	*	MDX		F008	CALL	3A157760 3A157770
	•	*****	***	*******	*****	3A157780
	*				CK LOOP RT. SW RT	3A157790
	*					3A157800
************	****	*****	***	********	****************	3A157810

DATE	02JAN66	OlMAY66	15N0V66	15FE868	26AUG68	PROG ID	03A1-1
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CORE DATA OR	*LA- (	OPER-				3A157820
AODR INSTRUCTION	*8EL /	MOLTA	F٦	OPERANOS &	REMARKS 10&SEQ# AT RIGHT	3A157830
**********	*****	*****	***	*********	***************	3A157840
OFC4 0 0000	F005	DC		0	WILL CONTAIN RETURN ADOR	3A157850
0FC5 0 080C		XIO		F003	READ SWS - PLACE IN LABEL	3A157860
	*				* ADDRESS 2000	3A157870
OFC6 O COOE		LD		<b>Z000</b>	CK LOOP ROUTINE SW	3A157880
OFC7 0 1805		SRA		5	CHECK FOR 8IT 11	3A157890
OFC8 0 4804		8 S C		E	NO SKIP FOR LOOP	3A157900
OFC9 0 7003		MDX		F00G	LOOP ROUTINE SWITCH ON	3A157910
OFCA O COF9		LO		F005	LD RETURN ADDRESS	3A157920
OFC8 O DOCC		STO		FOOE	SAVE FOR LOCK ON ERROR RTN	3A157930
OFCC O 70CC		MDX		F00E&1	8R TO SAVE REGISTERS	3A157940
OFCD 0 4C80 OFC4	FOOG	85C	I	F005	8R TO MAIN PROGRAM	3A157950
	*				* RETURN ADDRESS	3A157960
OFCF 0 0000	U000	DC		/0000	A REG SAVED HERE	3A157970
0F00 0 0000	U001	DC		/0000	Q REG SAVED HERE	3A15798C
OFD2 0000		855	E			3A157990
OFD2 O OFO5	F003	DC		2000		3A158000
OFD3 0 0240	F004	DC		/0240	EQUAL /3A00 IN 1130	3A158010
OFD4 0 0001	U006	DC		/0001		3 <b>A158020</b>
0FD5 0 0000	2000	OC.		/0000	SW READING STOREO HERE	3A158030
0FD6 0002	UOOX	855		2	SAVED FOR ACQ STORAGE	3A158040
OFD8 0 6004	RST1	LDX		/0004		3A158050
OFD9 0 4C00 012E	RST2	8 S C	L	A080		3A158060
OFDC 012D		END		X000		3A158070
NO STATEMENTS FLAG	GED IN	THE	A80	VE ASSEMBLY		

18M MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

CPU FUNCTION TEST

DATE 02JAN66 01MAY66 15NOV66 15FE868 26AUG68 EC NO. 415490 415490C 419643 420403 420403A

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CROSS REFERENCE
NAME VALUE REFERENCES
AOCO 013F 013A,300F,3010,3011,3012
       012E 0F09,3004,3005,3006,3007,300B,3009,300A,300B,300C,300D,300E
A 080
       01EB 01E9,3030,303E
       01F5 01F2,303F,3040,3041,3042,3043,3044,3045
AlEO
       0214 0210,3046,3047
       0220 0210,3048,3049
       014C 3013,3014,3015
A100
       0154 0F63,3016,3017,3018,3019,301A,301B,301C,301D,301E,301F,3020,3021
A140
             3022,3023,3024,3025,3026,3027,302B,3029,302E
019E,302A,3028,302C,302D,302F,3030,3031,3032,3033,3034,3035,3036
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       0336 0340,3072
       0318 0311,0321,306F
A2C0
      0322 0328,3070
032C 0335,3071
A2C4
A2CB
       0220 0229,304A,304B,304C,304D,304E,304F,3050,3051,3052,3053,3054,3055
A200
              3056,3057,3058,3059,305A,3058,305C,305D,305E,305F
       0270 0268,3060,3061,3062,3063,3064
A280
       02D8 028B,02C6,02E1,306A
       02E2 02EC, 3068
A2B1
       02ED 02F7.306C
A282
A283
       02FB
             0302,306D
       0303 0310,306E
A284
       03DC 03D5+03EB+03F2+3080+3081
A3C0
       03F3 0400.0409.3082.3083
A3C4
       0344 0341,034D,3073
A300
       034E 0358,3074
A302
       0359 0363,3075
             0364,0372,0370,3076,3077
A340
       0367
       038C 03CA, 03D4, 307E, 307F
A38C
A380
       0380 037D,038A,0394,3078,3079
             039E,03A7,307A,307B
A384
       0395
       03AB 03B1,03B8,307C,307D
A388
       05A7
             0584,0580,30AB,30A9
A4CC
A4C0
       055F
             055B.056A.30A1
       056B 056B, 056E, 057C, 0585, 058F, 30A2, 30A3, 30A4, 30A5
A4C2
       0590 0590,05A6,30A6,30A7
A4C8
       0412 040A, 041F, 0427, 0432, 3084, 3085, 3086
A400
A408
             0441,0449,0452,3087,3088,3089
       04F9 0505,050E,051B,3099,309A,3098
       04BD 04B5,04C8,04D0,04D9,3093,3094,3095
A440
       040A 04E6,04EF,04FB,3096,3097,3098
0542 053B,054D,309F
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       06C Đ
       06DF
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CPU FUNCTION TEST

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       07FC 0809,300D
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FOOC
       OFBE OFBA
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        OF8B
              0F7D
        OFCD
               OFC9
FOOG
FOOH
        OFB4
FOOK
        OFAE OFBD.OFC2
        OF7A
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               OF6A
FOOX
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        0F69
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              OFAD
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        02CB
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        02C O
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        02CF
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GOC2
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        017D
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GIBC
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              0106
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G18E
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              OLAA
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              0186
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DATE

IBM MAINTENANCE GIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

0027,0F6E,0F93,0FA6,0FC5

CPU FUNCTION TEST

F003

F002 0F82 0F75

0F02

26AUG6B

420403A

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G2C8
          031F 031A
         0329 0324
0333 032E
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          0267 0265
620C
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         0262 0260
0231 0220
6201
          0236 0232
         023A 0236
023E 023A
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         0242 0240
0247 0243
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G205
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G207
         024F 024D
0254 0252
G208
          0248 0247
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         0258
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02F5 02F0
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G3C4
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         03F0 03E8
03FE 03F9
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G4C4
G4C6
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644C
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G5OA
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G664
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G68A
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G68C
        0920 0918
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CPU FUNCTION TEST

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H4C÷
       0580
            057D
H40A
       0449
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CPU FUNCTION TEST

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18M MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

CPU FUNCTION TEST

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END OF ASSEMBLY

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BASIC DIAGNOSTIC LOADER

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## BASIC DIAGNOSTIC LDADER

## 1. PURPOSE

THE 1130 BASIC DIAGNOSTIC LOADER IS A SELF-CHECKING PROGRAM DESIGNED TO LOAD AND VERIFY LOADING OF DIAGNOSTIC-CARD OR PAPER TAPE PROGRAMS PUNCHED IN 8-8 FORMAT.

# 2. PREREQUISITES

#### PROGRAM PREREQUISITES

THE BASIC LOADER WILL ONLY LDAD PROGRAM DECKS WHICH ARE PUNCHED IN THE B-8 FORMAT DESCRIBED IN SECTION 6.1.

## EQUIPMENT PREREQUISITES

- A. 1131 CENTRAL PROCESSING UNIT (CPU).
- B. 1442 CARD READ/PUNCH, DR. PAPER TAPE READER.

#### 3. USE PROCEDURE

## NORMAL LOADING PROCEDURE

- A. AT 1442 CARD READ/PUNCH,
  - 1. DEPRESS NPRO PUSHBUTTON TO CLEAR FEED.
  - 2. PLACE BASIC LDADER DECK, FOLLOWED BY MAIN PROGRAM AND TWO BLANK CARDS IN HDPPER.
  - 3. DEPRESS START PUSHBUTTON. READY INDICATOR SHOULD LIGHT.

## B. AT PAPER TAPE READER

- 1. SET TAPE IN READER
- 2. MAKE READER READY

## C. AT 1131 CPU,

- 2. PUSH PROGRAM LOAD. MAIN PROGRAM SHOULD LOAD AND BEGIN
- 3. IF PROGRAM FAILS TO LOAD OR HALTS AT A WAIT INSTRUCTION BELOW LOCATION 012C, REFER TO SECTION 3.2

#### DIAGNOSTIC LOADING PROCEDURE

- 1. SET INTERRUPT DELAY SWITCH (ON CE PANEL) TO ON POSITION.
- 2. RETRY LDADING PROCEDURE.

IF PROGRAM LOADS, RUN CPU AND INTERRUPT TESTS TO DIAGNOSE NORMAL LDADER FAILURE.

IF PROGRAM DOES NOT LOAD, REFER TO SECTION 3.3

#### DIAGNOSTIC GUIDE

## NOTE

ALL REGISTER-CONTENT INDICATIONS IN FOLLOWING STEPS ARE EXPRESSED IN HEXADECIMAL NOTATION. ALL ADDRSESSES APPLY TO BOTH PAPER TAPE AND CARD VERSIONS OF THE PROGRAM.

# FAILURE DESCRIPTION SUGGESTED ACTION + POSSIBLE CAUSE DE FAILURE

REFER TO PROGRAM LOAD TESTS. POSSIBLE FAILURE OF 1. ND CARD FEEDS EITHER PROGRAM-LOAD MODE OR READER.

## BASIC DIAGNOSTIC LOADER

2.	FIRST CARD	REFER TO	PROGRAM	LOAD TESTS.
	FEEDS BUT IS NOT	POSSIBLE	FAILURE	OF READER.
	READ CORRECTLY.			

3. FIRST CARD IS READ CORRECTLY BUT NOT ABLE TO LOAD REMAINDER OF LDADER.

REFER TO ONE-CARD PROGRAMS. POSSIBLE FAILURE OF CPU INSTRUCTIONS USED TO BODTSTRAP LOADER.

4. MAIN PROGRAM

CHECK THAT LAST CARD OF PROGRAM, WHICH IS STARTS EXECUTING PUNCHED WITH FF IN COLUMNS 79 AND 80. BEFORE ALL CARDS IS NOT OUT OF SEQUENCE. IF CARD IS IN SEQUENCE, HAVE BEEN LOADED. A READING PROBLEM IS INDICATED.

ALL CARDS FEED SEE IF LAST CARD WENT PAST THE READ STATION BUT MAIN PROGRAM OF THE 1442. IF IT DID, RUN ONE-CARD DID NOT EXECUTE. DIAGNOSTIC PROGRAMS. CHECK THAT MAIN PROGRAM IS FOLLOWED BY TWO BLANK CARDS.

#### ERROR WAITS

SBR	LOCATION	MEANING
3DF1	OD1E	PROGRAM STOPPED BECAUSE CHECKSUM FOR FIRST CARD WAS NOT CORRECT 10DD0). CHECK THAT LOCATIONS 0000 TO ODIE WERE READ CORRECTLY BY COMPARING WITH LISTING IF NOT LDADED CORRECTLY, REFER TO PROGRAM LOAD TESTS. IF LOCATIONS WERE LOADED CORRECTLY, RUN ONE—CARD PROGRAMS TO HELP ISOLATE PROBLEM.
30F2	002F	PROGRAM STOPPED BECAUSE OF DSW ERROR. THE DNLY VALID WORDS ARE BOO3, 0003, AND 0800. DETERMINE CAUSE OF DSW ERROR AND CORRECT. RELOAD AFTER REPAIRING.
3DF3	DO4F	PROGRAM STOPPED BECAUSE FIRST WORD OF CARD 2 FAILED TO BE LOADED IN LOCATION OD4F AND THEREFORE, DID NOT REPLACE THE WAIT INSTRUCTION AT THAT LOCATION. EXAMINE CARD 2 AND TRY RELDADING. IF NO IMPROVEMENT, RUN ONE—CARD DIAGNOSTIC PROGRAMS.
30F4	0095	PROGRAM STDPPED BECAUSE OF DSW ERROR. THE ONLY VALID WORDS ARE BODS, 0.003, AND 0800. DETERMINE CAUSE OF DSW ERROR AND CORRECT. RELOAD AFTER REPAIR.
30F5	0045	WHILE LOADING THE MAIN PROGRAM, PROGRAM FOUND THAT WORD COUNT IN LOCATION 0034 EQUALED ZERO. PROBLEM MAY BE CAUSED BY A BLANK CARD IN DECK, OR READING FAILURE.
30F6	0087	CHECKSUM ERROR. EITHER THE SUM OF LOCATIONS 0010 THRU 0036 DDES NOT EQUAL ZERO, OR AN ADD FAILURE HAS OCCURRED. COMPARE DATA IN LOCATIONS 0010 THRU 0036 WITH DATA IN CARD COLUMNS I THROUGH 78. IF CORRECT, RUN CARDS 2 THRU 5 OF ONE-CARD DIAGNOSTIC PROGRAMS TO HELP DETERMINE CAUSE OF FAILURE.
30F7	OODE	PROGRAM HAS FOUND THAT A WORD IN THE READ-IN AREA AND THE WORD AT LOCATION WHERE THE WORD READ IN WAS TRANSFERRED DO NOT AGREE. THE ADDRESSES OF THE WORDS FOUND NOT TO AGREE CAN BE FOUND AT LOCATIONS OODA AND CODC. THE PROBLEM MAY BE A DATA-TRANSFER ERROR OR AN EOR FAILURE. RUN ONE-CARD DIAGNOSTIC PROGRAMS TO DETERMINE CAUSE OF PROBLEM.

BASIC DIAGNOSTIC LOADER

## 4. PRINTOUTS (NONE)

#### 5. COMMENTS

THE 1130 BASIC DIAGNOSTIC LOADER IS A SELF-CHECKING PROGRAM DESIGNED TO LOAD AND VERIFY LOADING OF CARD PROGRAMS PUNCHED IN 8-8 MODE. THE 8-8 MODE REFERS TO PROGRAM CARDS IN WHICH A CARD COLUMN CONTAINS A HALF WORD WHERE ONE FULL WORD CONSISTS OF SIXTEEN BITS. TWO CARD COLUMNS ARE REQUIRED FOR EACH WORD. THE LOADER DECK CONSISTS OF FIVE CARDS. THE FIRST CARD IS PUNCHED IN IPL-MODE FORMAT. CARDS TWO THROUGH FIVE ARE PUNCHED IN 8-8 MODE.

BASIC-LOADER FIRST-CARD FUNCTIONS 5.1

IBM MAINTENANCE DIAGNOSTIC PROGPAM FOR THE 1130 SYSTEM

- 5.1.1 AFTER BEING LOADED IN IPL MODE. THE FIRST-CARD PROGRAM DEVELOPS A CHECKSUM TO DETERMINE IF IT WAS LOADED CORRECTLY. IF THE CHECKSUM IS NOT 0000, THE PROGRAM STOPS AT A WAIT WITH THE DEVELOPED CHECKSUM DISPLAYED BY THE ACCUMULATOR.
- 5.1.2 IF THE CHECKSUM IS CORRECT, THE FIRST-CARD PROGRAM PROCEEDS TO LOAD CARDS TWO THROUGH FIVE. TWO CARD COLUMNS WILL FORM ONE STORAGE WORD BECAUSE THESE CARDS ARE PUNCHED IN 8-8 MODE. THE DSW IS CHECKED, AND IF AN ERROR IS DETECTED, THE PROGRAM WILL STOP AT A WAIT WITH THE ERROR OSH DISPLAYED BY THE ACCUMULATOR. THE CONDITION CAUSING THE DSW ERROR MUST BE CORRECTED BEFORE ATTEMPTING TO RELOAD.
- 5.1.3 AFTER LOADING CARDS TWO THROUGH FIVE, THE PROGRAM BRANCHES TO BEGINNING OF PROGRAM JUST LOADED.
- 5.2 FUNCTIONS OF BASIC-LOADER CARDS THO THROUGH FIVE
- 5-2-1 CARDS TWO THROUGH FIVE LOAD A MAIN-PROGRAM CARD INTO LOCATIONS 001D TO 0036. THE DSW IS CHECKED AFTER READING A CARD COLUMN, AND IF AN ERROR OCCURRED, THE PROGRAM STOPS AT A WAIT WITH THE DSW ERROR DISPLAYED BY THE ACCUMULATOR.
- 5.2.2 CAROS TWO THROUGH FIVE ALSO DEVELOP CHECKSUM OF LOCATIONS 001D THROUGH DO36. IF CHECKSUM IS OTHER THAN OOOD, PROGRAM STOPS AT ERROR WAIT WITH CHECKSUM DISPLAYED BY ACCUMULATOR. A CORRECT CHECKSUM MEANS CARD WAS READ CORRECTLY.
- 5.2.3 THE WORD COUNT, INUMBER OF WORDS ON THE CARD) IS TAKEN FROM LOCATION 0034. IF IT IS ZERO PROGRAM STOPS AT ERROR-WAIT.
- 5.2.4 THE NUMBER OF WORDS SPECIFIED IN LOCATION DO34 IS RELOCATED. STARTING AT THE ADDRESS THAT WAS SPECIFIED IN CARD COLUMNS 75 AND 76 AND THAT WAS READ INTO LOCATION DO35.
- 5.2.5 THE DATA READ AND THE DATA AT THE TRANSFERED LOCATION ARE COMPARED WORD BY WORD TO VERIFY THAT THE RELOCATION HAS BEEN DONE CORRECTLY. AN UNEQUAL COMPAPISON RESULTS IN THE PROGRAM STOPPING AT AN ENOV-WAIT INDICATING AN RELOCATION ERROR.
- 5.2.6 THE PROGRAM REPEATS THE STEPS DISCUSSED IN PARAGRAPHS 5.2.1 THROUGH 5.2.5 FOR FACH CARD OF THE MAIN PROGRAM DECK, EXCEPT FOR THE LAST CARO, WHICH MUST HAVE A LOCATION ADDRESS OF 0000. AFTER READING THE CARD AND DEVELOPING THE CHECKSUM, THE PROGRAM BRANCHES TO LOCATION 0010 AND STARTS EXECUTING THE MAIN LINE PROGRAM.

IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

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BASIC DIAGNOSTIC LOADER

## 6. APPENDIX

## 6-1 PUNCHED CARD 8-8 FORMAT

THE ORGANIZATION OF THE PUNCHED CARD 8-8 FORMAT IS AS FOLLOWS.

- A. COLUMNS 1 THROUGH 72 CONTAIN HALF WORDS (8 8ITS) PUNCHED INTO ROWS 12 THROUGH 5. WORD-BITS 0 THROUGH 7 ARE PUNCHED INTO EVEN NUMBERED COLUMNS. WORD-BITS 8 THROUGH 15 ARE PUNCHED INTO 000 NUMBERED COLUMNS.
- B. COLUMNS 73 AND 74 CONTAIN A WORD-COUNT OF THE TOTAL NUMBER OF DATA WORDS PUNCHED INTO THE CARD.
- C. COLUMNS 75 AND 76 CONTAIN THE LOCATION, IN CORE WHERE THE DATA ON THE CARD ARE TO BE LDADED.
- D. COLUMNS 77 AND 78 CONTAIN A CHECKSUN (TWO'S COMPLEMENT OF THE SUM OF ALL WORDS IN COLUMNS 1 THROUGH 76).
- F. COLUMNS 79 AND 80 CONTAIN THE CARD'S SEQUENCE NUMBER PUNCHED IN HOLLERITH/HEXADECIMAL FORMAT.

DATE 02JAN66 01MAY66 EC NO. 415490 415490C

PROG ID 03A3-

BASIC DIAGNOSTIC LOADER LIST FOR CAPO ONE (1PL)

BASIC DIAGNOSTIC LOADER LIST FOR CARD ONE (1PL)

						• '	
	•		ARS				CFD00000
0280		•	DRG		/0000		CL 0000 10
02.00		*		LOA		1	
						LOAD SUTTON	CEDOVOZO
		<u>.</u>	.UAU F	4117	1 PRUGRAM	LUAD GUITON	CI DOOG 60
		*					CLD00060
0000 0	C <b>02C</b>	START			RDIN+1	CORRECT 1/0 CONT. COMM.	CLD::00.70
0001 0	1802		SRA		2	8Y SHIFTING	CLD00080
0002 0	DO2A		STO		ROIN+1		CLD00090
0003 0	CO23		LO		STRD	CORRECT 1/O CONT. COMM.	CLD00100
0004 0	1801		SRA		1	BY SHIFTING AND	CL DC 01 10
					-		
00050	D021		STO		STRO	STORE WORD	CL 00 0 1 20
0006-0	F038		EDR		STORE	SET UP STORE LONG INST	CLD00130
0007 0	0037		STO		STORE	PUT BACK INTO CORE.	CLD00140
0.008 0	C022		LD		SENSE	CORRECT 1/0 CONT. COMM.	CL 000150
0 6000	1803		SRA		3		CLD00160
O GOA O	D020		STO		SENSE		CLD00170
0.000	F010		EOR		RESET		CLD00180
000C 0	DO1C		STO		RESET		CLD00190
0.000	1805		SRA		5	MAKE STORE LONG INST.	CLD00200
000E 0	F031		EOR		STORE+1		CL D00210
							CLD00220
000F 0	D030		STO		STORE+1		
0010 0	C017		LO		INTAD		CL000230
0.011 0	DOF6		\$TO		/0008		CLD00240
0012 0	DOF9		STO		/000C		CLD00250
		*					CLD00260
0013 0	C016	STRT	LO		CHKSM	FORM CHECK SUM , THIS CARO	CLD00270
		3171					
0014 0	8000		A		*	FROM 0015 THRU 0040	CLD00280
0015 0	9014		STO		CHKSM		CL D0 0 2 90
0016 0	COFD		LD		STRT+1		CLD00300
0017 0	800 E		A		K0001	MODIFY ADO INSTRUCTION	CLD00310
0018 0	00F8		STO		STRT+1		CLD00320
						CUEEN THAT LAST LAC CHEENA	
0019 0	F00B		EOR		CONI	CHECK THAT LAST LOC.CHECKO	
001A 0	4820		8 S C		Z	SKIP WHEN CONE	CLD00340
0018 0	70F7		MOX		STRT	GO GET NEXT WORD	CLD00350
001C 0	COOD		LO		CHKSM	GET SUM OF 0013 THRU 004F	CLD00360
0010 0	482C		8 SC		Z	SEE ACC IS 0000 IF SO GO	CLD00370
001E 0	30F1		WAIT		-15	CHECK SUM ERROR	CL000380
		CHOCK					
001F 0	7010	ENDCK	HUX		SRTRD	START LOADING	CLD00390
		*					CLD00400
<b>0</b> 020 0	8823	INT	ጋር		/B823		CLD00410
0021 0	0806		X10		RESET-1	SENSE AND RESET DSW	CL000420
0022 0	48F8		DC		/48F8	80 SC +-Z	CLD00430
0023 0	0803	K0803			/0803	2000	CLD00440
		KUOU 3					
0024 0	700E		MDX		PACK		CLD00450
		*					CLD00460
0 <b>0</b> 25 0	8039	CONI	A	X	/0039		CL D00470
0026 0	0001	K0001	00		/0001	START RO-USEO AS CONSTANT	CLD00480
0027 0	2808	STRD	OC.		/2808	/1404 SET 8Y PROG.	CL D0C4 90
0028 0	0050	INTAD			INT	RESET DSW CONTROL COMMAND	
							CLD00500
<b>0</b> 029 0	0003	RESET			/0003	/1703 SET BY PROGRAM	CLDC0510
002A 0	3829	CHKSM	DC		/3829	SENSE OSW CONTROL COMMAND	CLD00520
0028 0	8800	SENSE	OC		/8800	/1700 SET BY PROGRAM	CLD00530
0.020 0	0000	ROIN	DC		/0000	READ IN LOCATIONS 0+1	CLD00540
0 <b>0</b> 2D 0	4800		DC		/4800	/1200 SET BY PROGRAM	CLD00550
0020 0	4000	*	bc		74000	71200 SET OF PROGRAM	
	5017						CLD00560
0 <b>02E</b> 0	F017	ERROR	EUR		K0800	RESTORE ACC. TO DSW	CLD00570
002F n	30F2		WAIT		-14	**ERR. OSW IN ACC.	CLD00580
		*					CLD00590
0030 0	08F5	SRTRD	XIO		STRD-1	START READ	CL 000600
0031 0	08F6	J 1 N. D	XIO		RESET-1		
					_	RESET DSW	CL 000610
0032 0	0857		XIO		SENSE-1	SENSE DSW FOR CRP	CLDC0620
0033 0	F011	PACK	EUK		K8003	8ITS $0 + 14 + 15$ ONLY	CLD00630
0034 0	4820		850		7	SKIP IF BITS 0+14+15 ONLY	CLD00640
0035 0	7011		HOX		CONT 1	CONTINUE OSH ANALYSIS	CLD00650
0036 0	08F5		XIG		ROIN	RD COL. ONE-HALF WORD	CL 000660
						NO COLO UNETTALE MUNU	
0037 0	COF4		LD		NICS		CLD00670
0038 0	FOED		EOR		K0001	SWITCH READ IN AREA, EVEN	CL D0 0 6 80
0039 0	00F2		STO		RDIN	COLS. IN 0 000 IN 1	CL D00690

PROG	1 D	03A3-1
PAGE		1

003A	0	4820		8 S C	2	SKIP BOTH HALVES IN	CL000700
0038	n	70F5		MDX	SR TRD+ I	GET 2ND HALF WORD	CLD00710
003C	0	COC3		LO	START	GET LAST 8 81TS	CLD00720
003D	0	1808		SRA	8	SHIFT IT	CLD00730
003E	0	FOC2		EOR	START+1	GET FIRST 8 8ITS	CLD00740
003F	0	C004	STORE	DC	/C n0 4	FIRST WORD OF STO L	CLD00750
0040	0	00F7		DC	/00F7	2ND WORD OF STORE LONG	CL000760
			* STUF	RE + STOR	RE +1 CHAN	GED BY PROG9 TO STO L /004F	CLD00770
0041	0	COFE		LD	STORE+1		CLD00780
0042	0	80 E 3		Α ,	K0001	MODIFY STORE ADDRESS	CLD00790
0043	0	DO F C		STO	STORE+1		CLDC080C
0044	0	70EC		HDX	SR TR 0+ 1		CLD00810
			*				CLD00820
0045	0	8003	K8003	OC	/8003		CLD00830
0046	0	0800	K0800	DC	/0800		CLD00840
			4.				CLD00850
0047	0	F003	CONT 1	EOR	K8000	CHECK FOR BITS 14+15 ONLY	CLD00860
0048	0	4820		BSC	Z	SKIP BUSY AND NOT READY	CLD00870
0049	Ü	7002		MDX	CONT2		CLD00880
004A	0	70E7		MDX	SRTRO+2		CL 000890
0048	9	8000	K8000	OC	/8000		CLD00900
			*				CLD00910
004C	0	FOD6	CONT 2	EUb	K0803	CHECK FOR 8IT 4 ONLY	CLD00920
004D	0	4820		8 S C	Z	SKIP END OF CARO	CLD00930
004E	ŋ	70DF		MDX	ERROR		CLD00940
004F	0	30F3		WAIT	-13 *	*ERR IF PRGM STOPS AT WAIT	CLD00950
			*				CLD00960
			* CAR	) 2 IS R	EAD IN AT	THIS LOCATION WITH THE	CLD00970
			* CHE	CK FOR RI	EAD OF 4 C	AROS.	CLD00980
0050		0000		EN0	START		CLD00990

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PAGE

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BASIC DIAGNOSTIC LOADER LIST FOR CARD ONE (IPI)

CROSS REFERENCE LISTING

SYMBOL	VALUE	REFERENCES
CHKSM	002A	0013,0C15,001C
CONT1	0047	00 35
CONT 2	004C	CO 49
CON1	0025	CO 19
ENDSK	CO1F	
ERROR	002E	00 4E
INT	0020	0028
INTAD	0028	CO 10
KONN1	0026	0017,0038,0042
K0800	C046	00.5E
K0803	0023	CO4C
K800C	0048	0047
K8003	C045	00 33
PACK	0033	QO 24
RDIN	002 C	0000,002,0036,0037,0039
RESET	OD29	0008,0000,0021,0031
SENSE	002B	00 08+0 00A+0032
SRTRD	0030	001F,0038,0044,004A
START	თიიი	003C,003E,0050
STORE	OD3F	0006,0007,0D0E,000F,0041,0043
STRD	0027	0003,0005,0030
STRY	0013	0016,0018,0018

BASIC DIAGNOSTIC LOADER LIST FOR CARDS TWO THROUGH FIVE

			ABS	*		CL 001000
•						CLDC1010
					E CARD OF 8/8 FORMAT	CF DC 10 50
		_		COOR THRU		CL DC 10 30
				26 TO BE ZI	KFD. FOR SUM LOCS.	CLD01040
					PECIFIED IN LOC. 0024	CLD01050 CLD01060
					TIONS BEGINNING AT THE	CLD: 1070
					WORDS MOVED ARE CHECKED	CLDC1080
					COOD AND FOLLOWING.	CLD01090
		* IF /	ALL CHECK	KS ARE OK	THE NEXT CARD IS READ.	CLD01100
		* CARI	D 2 BEGI	NS HERE		CLDC1110
		*				CLDC1120
028C			ORG	/004F		CLDC1130
004F 0	C0 20	07.70.7	LD	COUNT	COUNT CARDS READ	CLD01140
0050 0	8020 2016	RSTRT		KOOC1 COUNT		CLD01150
0051 0 0052 0	001E F01F		STO EOR	K0004	CHECK FOR 4 CARDS READ	CLD01160 CLD01170
0052 0	4820		8 SC	Z	SKIP 4 CARDS READ	CLD01180
0054 0	700B		MDX	/0030	GO TO START READ	CLD01190
		*				CLP01200
0055 0	C071		LD	MDX	SET RESART BRANCH	CLD01210
0056 0	D0F9		STO	RSTRT		CL DO 1 2 20
0057 0	C070		LD	MDXO	•	CLD1222
0058 0	DOA7		STO	/0000		CLDC1224
0050 0	6037	*		CONT		CLD01230
0059 0 0054 0	CO34 DO1D	LOAD	LD STO	CON1 STORE	RESTORE STORE INST.	CLDC1240
0058 0	C022		LD	CON2	MESTURE STORE INST.	CLD01250 CLD01260
005C 0	D027		STO	RDIN	RESTORE PDIN LOC.	CLD01270
005D 0	C022		LD	INTAD	RESTORE TOTAL CITE	CLD01280
005E 0	DOA9		STO	/0008		CLD01290
005F 0	DOAC		STO	/000C		CLD01300
		*				CLDC1310
0060 0	0810	SRTRD		STRD-1	START READ	CLD01320
0061 0	081E		XIO	RESET-1	RESET DSW	CLDC1330
0062 0	081F		XIO	SENSE-1	SENSE DSW	CLD01340
0063 0	E027	* PACK	EOR	K8003	CHECK OFTE O 1441E ONLY	CLD01350
0064 0	F027 <b>482</b> 0	PACK	EOR BSC	Z	CHECK 81TS 0, 14+15 ONLY SKIP IF COL. REQUEST	CLD01360 CLD01370
0065 0	7031		MDX	CONTI	SKIP IT COLL KENDEST	CLD01370
0066 0	081D		XIO	RDIN	READ A COLUMN	CLD01390
0067 0	COIC		LD	RDIN	SET NEXT READ IN LOCATION	CLD01400
0068 0	F008		EOR	K0001		CLD01410
0069 0	DO1 A		STO	RDIN		CLD01420
0 06A 0	F013		EOR	CON2		CLD01430
0068 0	4820		8 SC	2	SKIP IF BOTH HALF WORDS IN	CLD01440
006C 0	70F4		MDX	SR TRD+1	COMPANY WATER HOUSE	CLD01450
006E 0	C018 1808		LD SPA	RDEVN	COMBINE HALF WORDS	CLD01460
006F 0	7007		SRA MDX	8 /0077		CLD01470 CLD01490
0070 0	0000	COUNT		/0000		CLD01490
0071 0	0001	K0001		/0001		CLD01510
0072 0	0004	K0004		/0004		CL DO 1520
		*				CLD01540
			RD 3 8EG	INS HERE		CLD01550
0073		*		10.07-		CLD01560
0073	F00 F		DRG COD	/0077		CLD01570
0077 0 0078 0	D097	STORE	EOR	/0010	STORE FULL WORD	CLD01571
0079 0	COFE	31.04.5	LD	STORE	SET NEXT WORD LOCATION	CLD01580 CLD01590
0074 O	80F6		A	K0001	SET HEAT HUND EUCHTEUR	CLDC1600
0078 0	DOFC		STO	STORE		CLDC1610
007C 0	70E4		MDX	SRTRD+1		CLD01620
007D 0	7096	HOP	MDX	/0014	START PROGRAM	CLD01630
007E 0	0086	CON2	DC	RDEVN	READ CARD CONTROL COMMAND	CLD11650
007F.0	1404	STRD	DC	/1404		CLD01660
0080 0	008F	INTAD	חכ	INT	RESET DSW CONTROL COMMAND	CLD01670

CLD02730

CLD02740

BASIC DIAGNOSTIC LOADER LIST FOR CARDS TWO THROUGH FIVE

0081	า	1703	RESET	DC		/1703		CLD01680
0082		0000	CKSUM			70000	Sense sen	CLD01690
0083	(i	1700	SENSE	DC		/1700		CLD01700
0084	0	0096	RDIN	DC		RDEVN		CLDC1710
0085	9	1200		DC		/1200		CLD01720
0086		იიიი	RDEVN			/0000		CLD01730
0087		0000	RDODD			/0000		CLD01740
0038		0034	K0034			/0034		CLD01750
0089		0037	K0037			/0037		CLD01760 CLD01770
008A		0800	K0800			/0800		CLD01780
8870	•	8003	.K8003			/8003 /0010		CL001790
0080		0010	K8000			/8000		CLDC1800
008E		D097	CON1	STD	x	/0010-ST	ORE-1	CLD01805
0.762	U	50 7 1	*	3.0	^	,		CLD01810
008F	n	0000	INT	DC		0		CLD01820
0090		OREF		X10		PE SET-1	SENSE AND RESET OSW	CLD01830
0091		4878		8DSC		+-Z	8R OUT OF INTERRUPT	CL001840
0092		0803	K0803	DC		/0803		CLD01850
0093	0	70C F		MOX		PACK		CLD01860
			*					CLDC1870
0094	9	FOF5	ERROR			K0800	RESTORE ACC TO DSW	CLD01880
0095		30F4		MAIT			**ERR. DSW IN ACC.	CLD01890
0096		70C2		MDX		LOAD	PRESS START TO RETRY	CLD01900
0097		F0F5	CONTI			K8000	CHECK FOR BITS 14+15 ONLY	CLD01910 CLD01920
0098		4820		8SC		Z	SKIP BUSY AND NOT READY	CLD01930
0099		7005		MDX		CONT 2		CLD01940
009A	U	7007		MDX		SRTRD+2		CLD01950
			# CADE	) 4 RE	GIN	S HERE		CL001960
			*	, 4 00	. 0111	I TIERC		CLD01970
0098			•	DRG		/009F		CLDC1980
009F	n	F0F2	CDNT 2			K0803	CHECK FOR 81T 4 ONLY	CLD01990
00A0		4820		8 S C		Z	SKIP END DF CARD	CLD02000
00A1		70F2		MDX		ERROR		CLD02010
			*					CLD02020
			*CI	HECK F	OR	WORD COL	UNT OF ZERO	CLD02030
			*					CLD02040
0042		C091		LD		<u>/</u> 0034	GET WORD COUNT	CLD02050
00A3		4820		8 S C		Z	SKIP IF WORD COUNT ZERO	CLD02060
00A4		700 2		MOX		SUM1	** ERR. WORD COUNT IS ZERO	CLD02070 CLD02080
00A5		30F 5		WAIT		-11 LOAD	START CONTINUES LOADING	CL002090
0 0A6	U	7082		MUA		LUAD	START CON INCES ECACING	CLD02100
			*	- FORM	CHE	ECK SUM D	F CARD IMAGE LOCS. 100-26	CLD02110
			*		• • • • •			CLD02120
GOAT	n	COE4	SUM1	LD		K0010	SET ACC. TO /0010	CLDC 21 30
00A8		0004		STO		CKLOD+1		CLD02140
00A9	0	1810		SRA		16		CLD02150
OOAA	C	D007		STO		CKSUM	a	CLD02160
OOAB	0	COD6		LD		CKSUM		CLD02170
		8400FFFF	CKLOD		t.	/FFFF	FORM SUM OF LOCS.10 THRU 36	
OOAE		D003		STO		CKSUM		CLD02190
OOAF		COFO		LD		CKLDD+1	MODIFY ADDRESS	CLD02200
0080		8000		A		K0001		CLD02210
0081		DOFB		STO		CKL00+1	CHECK THAT ALL WORDS DONE	CLD02220 CLD02230
0.082		F0ቦጜ 4830		EDR		K0037 Z	SKIP ALL LOCS. ADDEO	CLD02240
0083 0084		4820 70F6		8 S C MDY		CKLOD-1	SWIT HEE EGG3. MDDEG	CLD02250
0085		2302		LO		CKSUM	LOAD SUM 10 THRU 36	CLD02260
0086		4820		8 S C		Z	SKIP SUM IS CORRECT	CLD02270
0087		30F6		TIAH		-10	**ERR. IN CHECK SUM	CLD02280
	-	- *· <del>-</del>	*					CLD02290
			* MOV	E CARI	יו ס	MAGE TO	THE LDCS. BEGINING AT	CLD02300
			* THE	AOOR	ESS	GIVEN I	N LDC. /0025	
			*					CLD02320
		04000035	MOVE	LD	L	/0035	GET AOORESS FOR FIRST WORD	
OOBA	0	4820		8 SC		Z	SKIP ADDRESS IS 0000	CLD02340
							•	

DATE 01MAY66 EC NO. 415490C

00E8 0 708D

0059

OOEA

CLD0 2350 STRE 0088 0 7001 MDX START PROGRAM VIA HOP CLDC2360 0080 0 7000 XGM HGP PUT+I SET FIRST WORD ADDRESS CLD02370 008D 0 DOOC STRE STD CLD02380 K0010 SET ACC. EQU. 0010 008E 0 COCD LD CLD02390 SET TO GET FIRST WORD AT 0 DOSF 9 DOOI STD GE T+1 0000 00 C400FFFF **GET** LD L /FFFF GET PROG. WORD CLD02400 CL002410 PUT MDX 00C2 0 7006 CLD02420 \* CARD 5 8EGINS HERE CLDC 2430 CLD0 2440 CLDC 2450 /00C7 00C3 CLD02456 0007 0 7008 MDX X LOAD-RSTRT-1 MDX X /0013 CLD02457 0008 0 7013 MDXO CLD0 2460 0009 00 D400FFFF PUT /FFFF PUT PROG. WORD STD CLD02470 00C8 0 COFE LD PUT+1 MODIFY PUT CLD02480 DOCC 0 80A4 K0001 00CD 0 DOFC STO PUT+1 CLDC2490 CLD02500 MODIFY GET LO GET+1 00CE 0 COF2 CLD02510 00CF 0 80A1 K0001 GET+1 CLDC2520 0000 0 DOF0 STO CHECK FOR ALL WORDS MOVED CLD02530 EOR K0034 00D1 0 F0B6 CLDC2540 8 S C SKIP ALL WORDS MOVED 0002 0 4820 CLD02550 00D3 0 70EC MDX GET /0035 GET ADORESS OF FIRST WORD CLD02560 0004 00 04000035 SUM2 LD CLD02570 CKMOV+1 PUT IT INTO ROUTINE 00D6 0 D003 STD SET TO GET FIRST WORD DF CLD02580 KOOIO 00D7 0 C084 LD CLD02590 STO COMP+I IMAGE 00D8 0 D003 GET WORD MOVED CLD02600 CKMOV LD L /FFFF 0009 00 C400FFFF /FFFF COMPARE WITH CARO IMAGE CLD02610 DOD8 00 F400FFFF CD MP EOR SKIP WORD STORED OK CL D0 26 20 8 SC 0000 0 4820 \*\*ERR. WORD NOT STOREO OK. CLD02630 WAIT 00DE 0 30F7 CKMOV+1 MDDIFY FOR NEXT WORD CLD02640 000F 0 COFA LD CLD02650 00ED 0 8090 K0001 CKMOV+1 CLD02660 00E1 0 DOF8 STO COMP+1 MODIFY FOR NEXT COMPARE CLD02670 LD 00E2 0 COF9 CLD02680 K0001 00E3 0 808D CLD02690 00E4 0 D0F7 STO CDMP+I E OR K0034 CHECK IF ALL OONE CLD02700 00E5 0 F0A2 SKIP ALL WORDS CHECKED CI D02710 8 S C 00E6 0 4820 CLDC2720 CKMOV 00E7 0 70F1 MDX

SUM1-I

DAG

IBM MAINTENANCE DIAGNOSTIC PROGPÂM FOR THE 1130 SYSTEM

MDX

END

BASIC DIAGNOSTIC LOADER

LIST FOR CARDS TWO THROUGH FIVE

GO GET NEXT CARD

PROG ID 03A3-1

PART NO. 2191252 PAGE 4

# BASIC DIAGNOSTIC LOADER LIST FOR CARDS TWO THROUGH FIVE

# CROSS REFERENCE LISTING

SYM8OL	VALUE	RE FERENCES
CKLOOL	OPAC	CCA8,00AF,00B1,00B4
CKMOV	0009	00D6,00DF,00E1,00E7
CKSUM	0082	00AA,0CAB,00AE,00B5
COMP	CODB	00DB,00E2,00E4
CONT1	0097	00.65
CONT2	009F	00 99
CONI	008E	00.59
CON2	007E	005B,0C6A
COUNT	9970	CO4F+0051
ERROR	0094	00 A1
GET	0.000	CO 8F, 00CE, 00D0, 00D3
HDP	007D	On BC
INT	COBE	00 B0
INTAD	0080	0º 5D
KOODI	0071	0050,0068,007A,0080,00CC,00CF,00E0,00E3
K0004	0072	00 52
K0010	008 C	00A7.0CBE.00D7
K9034	0288	00D1,00E5
K0037	0089	00 B2
K0800	09BA	00 94
K0803	0092	00 9F
K8000	.008D	00 97
K8003	0088	00 63
LOAD	0059	00 96,0 CA6,00C 7,00E9
MDX	0007	00 55
MDXO	0008	00 57
MOVE	0088	
PACK	0063	00 93
PUT	0009	00BD,00C2,00CB,00CD
NVEGR	096	006D,007E,0084
RDIN	COB4	0050+0666+0067+0069
RDDDD	0087	0077
RESET	00B1	0061,0090
RSTRT	0050	0056,00C7
SENSE	0083	00 62
SRTRD	0060	00 6C , 0 0 7 C , 0 0 9 A
STORE	007B	005A,0079,007B,008E
STRD	007F	00 60
STRE	09BD	00 BB
SUM1	00 A 7	00A4,00E8
SUM2	00D4	

DATE 0 1MAY66 EC NO. 415490C PROG ID 03A3-1

IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

PART NO. 2191252 PAGE . 4A

BASIC DIAGNOSTIC LOADER PAPER TAPE BASIC LOADER

				ABS			TDL00000
02BC				ORG	/0000		10100010
			* L			LOAD BUTTON	TDL00020
0000		7011		MOX	STRT		TDL00030
0 00 1		0000		DC			TDLOOGAG
0002	-	0000		DC			TDL00050
0003		0000		DC			1DF000 60
0004		0000		DC			TDLCC070
0 00 5		0000		DC			10F66086
0006	0	0000		DC			TDL00090
0007	0	0000		DC			10100100
0008		0000		DC			TDLC 01 10
0009		0000		DC			1 DFC 01 5c
A000		0000		DC			10100130
8 000		0000		DC			T0L00140
0000		003A		DC	INT		TDLC015C
0000	0	0000		DC			TDL00160
000E		0000		DC			TDL00170
000F		0000		DC			TDLC0180
0010	0	0000		DC			TDL00190
0011	n	0000		DC			TDL00200
			*				TDLC0210
0012	0	COOD	STRT	!.D	CHKSM	FORM CHECK SUM	TDLC0220
0013	00	84000000		A L			TDL00230
0015	n	D00 A		STO	CHKSM		TDL00240
0016	0	COFD		LD	STRT+2		TDL00250
0017	0	B064		A	K9001	MODIFY ADD INSTRUCTION	TDL00260
001B	0	DOF8		STO	STRT+2		TDL00270
0019	n	FN07		EUR	LAST	CHECK THAT LAST LOC.CHECKD	TDLC 028C
091A	0	4B20		BSC	Z	SKIP WHEN OONE	TDLC0290
COIB	0	70F6		MDX	TIRT	GO GET NEXT WORD	TDL00300
0010	0	C003		LD	CHKSM	GET SUM OF COOD THRU COE8	TDL00310
0010	0	4820		BSC	Z	SKIP IF CKSUM ZERO	TDL00320
001E	Λ	30F1		WAIT			TDLC0330
OULL	•	301 2		MMI.	-15	CKSUM ERROR	10000
001F		7030		MDX	LDAD	START LOADING	TDL00340
	0		CHKSM	MDX			
001F	0	7030	CHKS#	MDX	LOAD		TDL00340
001F 0020	0	7030 2D6E		MDX DC	LDAD /2D6E		TDL00340 TDL00350
001F 0020	0 0 0	7030 2D6E	LAST	MDX DC	LDAD /2D6E		TDL00340 TDL00350 TDL00360
001F 0020 0021	0 0 0	7030 2D6E 00E9	LAST	MDX DC DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00380
001F 0020 0021	0 0 0	7030 2D6E 00E9	LAST	MDX DC DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00380 TDL00400
001F 0020 0021 0022 0023	0 0 0 0 0	7030 2D6E 00E9 FFFF 0000	LAST	MDX DC DC DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00380 TDL00400 TDL00401
001F 0020 0021 0022 0023 0024	0 0 0 0 0 0	7030 2D6E 00E9 FFFF 000n 0000	LAST	MDX DC DC DC DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00380 TDL00400 TDL00401 TDL00402
001F 0020 0021 0022 0023 0024 0025	0 0 0 0 0 0 0	7030 2D6E 00E9 FFFF 0000 0000	LAST	MDX DC DC DC DC DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00380 TDL00400 TDL00401 TDL00402 TDL00410
001F 0020 0021 0022 0023 0024 0025 0026	00000000	7030 2D6E 00E9 FFFF 0000 0000 0000	LAST	MDX DC DC DC DC DC DC DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00460 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420
001F 0020 0021 0022 0023 0024 0025 0026 0027	00000000	7030 2D6E 00E9 FFFF 0000 0000 0000 0000	LAST	MDX DC DC DC DC DC DC DC DC DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00400 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00430
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0029	000 00000000	7030 2D6E 00E9 FFFF 000n 0000 0000 0000 0000	LAST	MDX DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00480 TDL00400 TDL00402 TDL00410 TDL00420 TDL00430 TDL00430 TDL00440 TDL00450 TDL00460
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0029	000 00000000	7030 2D6E 00E9 FFFF 000n 0000 0000 0000 0000 0000	LAST	MDX DC DC DC DC DC DC DC DC DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00380 TDL00400 TDL00401 TDL00402 TDL00420 TDL00420 TDL00430 TDL00450
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0028 0028	000 0000000000	7030 2D6E 00E9 FFFF 0000 0000 0000 0000 0000 000	LAST	MDX DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00430 TDL00440 TDL00450 TDL00450 TDL00450 TDL00460 TDL00460 TDL00480
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0029 002A 002B	000 0000000000	7030 2D6E 00E9 FFFF 000n 0000 0000 0000 0000 0000 000	LAST	MDX DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00420 TDL00440 TDL00450 TDL00450 TDL00450 TDL00450
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0028 0028 0028 0020 0020	000 0000000000000	7030 2D6E 00E9 FFFF 0000 0000 0000 0000 0000 000	LAST	MDX DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00400 TDL00400 TDL00402 TDL00410 TDL00420 TDL00430 TDL00440 TDL00450 TDL00450 TDL00450 TDL00450 TDL00450 TDL00490 TDL00490 TDL00490 TDL00450
001F 0020 0021 0023 0024 0025 0026 0027 0028 0029 0028 0022 0020	000 0000000000000	7030 2D6E 00E9 FFFF 0000 0000 0000 0000 0000 000	LAST	MDX DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00430 TDL00450 TDL00450 TDL00450 TDL00460 TDL00460 TDL00460 TDL00460 TDL00460 TDL00460 TDL00460 TDL00460
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0029 0028 0028 0020 0020	000 00000000000000	7030 2D6E 00E9 FFFF 0000 0000 0000 0000 0000 000	LAST	MDX DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00400 TDL00400 TDL00402 TDL00410 TDL00420 TDL00430 TDL00440 TDL00450 TDL00450 TDL00450 TDL00450 TDL00450 TDL00490 TDL00490 TDL00490 TDL00450
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0028 0020 0020 0020 0020	000 00000000000000	7030 2D6E 00E9 FFFF 000n 0000 0000 0000 0000 0000 000	LAST	MDX DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00430 TDL00450 TDL00450 TDL00460 TDL00460 TDL00460 TDL00460 TDL00460 TDL00460 TDL00460 TDL00460 TDL00460 TDL00460 TDL004500 TDL004500 TDL00510
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0028 002C 0020 002C 002F 0030		7030 2D6E 00E9 FFFF 000n 0000 0000 0000 0000 0000 000	LAST	MDX DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00350 TDL00380 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00430 TDL00450 TDL00450 TDL00460 TDL00470 TDL00490 TDL004500 TDL004500 TDL00500 TDL00520
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0028 002C 0020 002E 002F 0030 0031		7030 2D6E 00E9 FFFF 000n 0000 0000 0000 0000 0000 000	LAST	MDX DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00430 TDL00450 TDL00450 TDL00450 TDL00450 TDL00450 TDL00450 TDL00450 TDL00450 TDL00550 TDL00550
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0028 0020 0020 0020 0031 0031 0033 0034		7030 2D6E 00E9 FFFF 000n 0000 0000 0000 0000 0000 000	LAST	MDX DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00360 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00430 TDL00450 TDL00450 TDL00460 TDL00470 TDL00480 TDL00490 TDL00500 TDL00520 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0028 0020 0020 0031 0032 9033 0034 0035		7030 2D6E 00E9 FFFF 000n 0000 0000 0000 0000 0000 000	LAST	MDX DC	LDAD /2D6E END		TDL00340 TDL00350 TDL00350 TDL00360 TDL00400 TDL00400 TDL00400 TDL00410 TDL00420 TDL00430 TDL00450 TDL00450 TDL00450 TDL00450 TDL00450 TDL00450 TDL00550
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0028 002C 0020 0031 0032 0033 0034 0035		7030 2D6E 00E9 FFFF 000n 0000 0000 0000 0000 0000 000	LAST	MDX DC	LOAD /2D6E END /FFFF		TDL00340 TDL00350 TDL00350 TDL00360 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00430 TDL00450 TDL00450 TDL00450 TDL00450 TDL00450 TDL00500 TDL00500 TDL00530 TDL00550
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0028 002C 0020 0031 0032 7033 0034 0035		7030 2D6E 00E9 FFFF 000n 0000 0000 0000 0000 0000 000	LAST	MDX DC	LOAD /2D6E END /FFFF		TDL00340 TDL00350 TDL00350 TDL00360 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00430 TDL00450 TDL00450 TDL00450 TDL00450 TDL00450 TDL00500 TDL00500 TDL00500 TDL00550
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0029 0028 0020 002E 0030 0031 0032 0033 0034 0035		7030 2D6E 00E9 FFFF 000n 0000 0000 0000 0000 0000 000	LAST	MDX DC	LOAD /2D6E END /FFFF		TDL00340 TDL00350 TDL00360 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00440 TDL00440 TDL00450 TDL00450 TDL00450 TDL00450 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00560 TDL00550 TDL00560
001F 0020 0021 0023 0024 0025 0026 0027 0028 0028 002C 0020 0031 0032 9033 0034 0035 0036 0037 0038		7030 2D6E 00E9 FFFF 000n 0000 0000 0000 0000 0000 000	LAST *	MDX DC	LOAD /2D6E END /FFFF		TDL00340 TDL00350 TDL00360 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00430 TDL00440 TDL00450 TDL00450 TDL00450 TDL00450 TDL00450 TDL00500 TDL00510 TDL00550 TDL00560 TDL00570 TDL00580 TDL00590 TDL006600 TDL00610
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0028 0028 0029 0031 0031 0033 0034 0035 0036 0037 0038		7030 2D6E 00E9 FFFF 000n 0000 0000 0000 0000 0000 000	LAST	MDX DC	LOAD /2D6E END /FFFF	START LOADING	TDL00340 TDL00350 TDL00360 TDL00400 TDL00401 TDL00402 TDL00402 TDL00420 TDL00430 TDL00450 TDL00450 TDL00450 TDL00460 TDL00450 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00570 TDL00570 TDL00580 TDL006800 TDL00600
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0028 0029 0028 0029 0031 0032 0031 0035 0036 0037 0038 0038		7030 2D6E 00E9  FFFF 000n 0000 0000 0000 0000 0000 00	LAST *	MDX DC	LOAD /2D6E END /FFFF	START LOADING  SENSE AND RESET DSW	TDL00340 TDL00350 TDL00360 TDL00400 TDL00400 TDL00400 TDL00400 TDL00430 TDL00430 TDL00450 TDL00450 TDL00450 TDL00450 TDL00450 TDL00450 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00560 TDL00560 TDL00560 TDL00560 TDL00560 TDL00630 TDL00630 TDL00630 TDL00630 TDL00630 TDL00630
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0028 002C 0020 0031 0032 0033 0034 0035 0036 0037 0038 0037 0038		7030 2D6E 00E9  FFFF 000n 0000 0000 0000 0000 0000 00	LAST *	MDX DC	LOAD /2D6E END /FFFF	START LOADING	TDL00340 TDL00350 TDL00350 TDL00360 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00430 TDL00450 TDL00450 TDL00450 TDL00450 TDL00500 TDL00510 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00560 TDL00570 TDL00560 TDL00560 TDL00660 TDL00630
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0028 002C 0020 0031 0032 0033 0034 0037 0038 0039 0030 0030		7030 2D6E 00E9  FFFF 000n 0000 0000 0000 0000 0000 00	LAST *	MDX DC	LOAD /2D6E END /FFFF	START LOADING  SENSE AND RESET DSW	TDL00340 TDL00350 TDL00350 TDL00360 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00430 TDL00450 TDL00450 TDL00450 TDL00450 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00560 TDL00570 TDL00560 TDL00560 TDL00560 TDL00650
001F 0020 0021 0022 0023 0024 0025 0026 0027 0028 0028 002C 0020 0031 0032 0033 0034 0035 0036 0037 0038 0037 0038		7030 2D6E 00E9  FFFF 000n 0000 0000 0000 0000 0000 00	LAST *	MDX DC	LOAD /2D6E END /FFFF	START LOADING  SENSE AND RESET DSW	TDL00340 TDL00350 TDL00350 TDL00360 TDL00400 TDL00401 TDL00402 TDL00410 TDL00420 TDL00430 TDL00450 TDL00450 TDL00450 TDL00450 TDL00500 TDL00510 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00550 TDL00560 TDL00570 TDL00560 TDL00560 TDL00660 TDL00630

DATE 0 IMAY66 EC NO. 415490C PROG 10 03A3-1 PAGE 4A

PROG ID 03A3-1

DC

DC

DC DC DC

DC

DC DC

DC

DC

DC

DC

DC

DC

DC

WAIT

MDX

BSC

MDX

MDX

DC

DC

DC

DC

DC

DC

8SC

MDX

MDX

LD

STO

SRA

STO

STO

LD

STO

**EOR** 

BSC

MDX

LO

BSC

LD

WAIT

ERROR FOR

CONT1 EOR

SENSE DC

RDIN DC

K0037 DC

KOD34 DC

KCO10 DC

/1FD1

/0004

/1F00

ROEVN

/1 ADO

/0037

/0034

/0010

KOCCO

-12

K4CC0

ERROR

/D034

SUM1

-11

LOAD

KDD1D

CKSUM

CK SUM

/FFFF

CK SUM

K0001

CKLOD+1

KD037

· CKSUM

CKLOD-1

\* MOVE CARD IMAGE TO THE LOCS. BEGINING AT

CKLOD+1

16

CKLOD+1

SRTRO+1

SRTRD+1

TDLC 1360

TDL01370

TDL01380

TDL01390

TDL01400

TDLD1410

TDLC1420

TDL01430

TDLD1440 TOLC 1450

TDL01460

TDLD1470

TDL01480

TDL01490

TDL01500

TDL01510

TDL01520

TDL01530

TDLC1540

TDL01550

TDL01555 TDL01560

TDL01570

TDLC1580

TDLD1590 TDL01600

TDLC1610

TDL01620

TDLC1630 TDL01640

TDL01660

TDLD1670

TDLC1680

TDL01690

TDL01700

TDLD1710

TDLD1720

TDL01730 TDLD1740

TDL01750

TDL01760

TDLD1770

TDL01780

TDLC1790

TDL01800

TDL01810

TDLD1820 TDLD1830

TDLD1840

TOLC 1850

TDLC1860

TDLD187D

TDLD1880

TDLC1900

TDLD1910

TDL01920

TDL01930

TDLD1940

TDL01950

TDL01960 TDL01970

TDL01980

TDLC1990 TDL02000

TDLC2D10

TDL0 2D 30

SENSE DSW CONTROL COMMAND

READ COL. CONTROL COMMAND

RESTORE ACC TO DSW

PRESS START TO RETRY

CHK BITS 4 AND 5 ONLY

SKIP BUSY AND NOT READY

\*\*ERR. OSW IN ACC.

GET WORD COUNT

SKIP IF WORD COUNT ZERO

START CONTINUES LOADING

CHECK THAT ALL WORDS DONE

SKIP ALL LOCS. ADDED

LOAO SUM 10 THRU 36 SKIP SUM IS CORRECT

\*\*ERR. IN CHECK SUM

\* THE ADDRESS GIVEN IN LOC. /0025. ----- TDL02020

FORM SUM OF LOCS.10 THRU 36 TDL01890

\*\*FRR. WORD COUNT IS ZERO

SET ACC. TO /0010

MODIFY ADDRESS

## BASIC OLAGNOSTIC LOADER PAPER TAPE BASIC LOADER

,								
0049	0	0000		DC				TDLC0680
0041		0000		DC				TDL00690
				DC				TDLD0700
0042		0000				/0010 CTOP		
0043		D09F	CONI	STO	X	/CC1C-STOR	( F = T	TDL00710
0044	0	0D4 E	CON2	DC		RDEVN		TDL00720
0045	D	CD28	CON3	DC		40		TDL00730
0046	0	7F00	DELET	DC.		/7F00		TDL00740
0.047	-	7006	FIX	MDX	X	Y-X-1		TDLC0750
						_		
9048		COED	REF1X		X	PDEVN-X-1		TDLDD760
0049	0	DCO 0	WCNT	DC		0		TDL00770
004A	0	4000	K4C00	DC		/4C00		TDLC0780
0048	0	ECFO	<b>KECFO</b>	DC.		/ECFD	PUNCH BIT MASK	TDL00790
0040		OCOD	KOCOO			/DC00		TDLCD800
						/4D00		TDLCD81C
0040		4000	K4DDD					
904E		0000	RDEVN			/D000		TDL00820
DO4F	n	<b>C</b> OOO	RDODD	DC		/0000		TDLOD830
			*					TDL00840
0050	0	COF2	LOAD	LD		CON1		TDL09850
0051		D01E	200	STO		STORE	RESTORE STORE INST.	TDLOD860
							RESTORE STORE INST.	TDL00870
0052		COF1		LD		CON2		-
0053	0	002 E		STO		RDIN	RESTORE RDIN LOC.	TDL00880
r054	0	CDFO		LD		CDN3		TDL00890
0.055	0	DOF3		STO		WCNT		TDLD0900
0056		CDF1		LD		REFIX		TDLCD910
								TDL00920
0057	υ	D008	_	STD		X		
			*					TDL00930
0058	0	0823	SR TR D	XIO		K0001	START READ	TDL00940
0059	n	0826		XIO		SENSE	SENSE DSW	TDL00950
0054		EDFD		AND		KECFO	MASK OUT PUNCH BITS	TDL00960
				EOR		K40D0	The second secon	TDL00970
0D5B		FOF 1					CUID IE COL SEQUECE	
0050		4820		BSC		Z	SKIP IF COL. REQUEST	TDL00980
0050	O	7039		MDX		CONT1		TDL00990
			*					TDL01000
OD5E	0	081F	PACK	01X		RESET	RESET DSW	TDLC 10 10
005F		D822		XIO		RDIN	READ A COLUMN	TDL01020
			J				KEND A COLUMN	TDL01030
0.060		CDED	X	LD		RDEVN		
0061		90E4	•	S		DELET		TDL01040
0062	0	4820		B SC		Z		TDL01050
0063	0	7001		MDX		*+1		TDL01060
D064	0	70F3		MDX		SRTRD		TDL01070
0065		COE1		LD		FIX		TDL0 1D 80
								TOLO 10 90
0066		DOF9		STO		X		
0067		CO1 A	Y	LD		RDIN	SET NEXT READ IN LOCATION	TDL01100
9068	D	F013		EOR		KDOD1		TDL01110
0.069	n	D018		STO		RDIN		TDL01120
006A		F0D9		EOR		CON2		TDL01130
006B		4820		BSC		7	SKIP IF BOTH HALF WORDS IN	TDLC1140
							3KIT II DOTT TIME! WORDS IN	TDL01150
0060		7DFB		MDX		SR TRD		
0060		COEU		LD		RDEVN	COMBINE HALF WORDS	TDL01160
D06 E	0	1808		SR A		8		TDL01170
D06F	0	FODF		EOR		RDOOD		TDL01180
	-		*					TDL0 1190
0070	0	D19F	STORE	STO		7001D	STORE FULL WORD	TDL0 1200
			31UKE					
0071		CDFE	4	LD		STORE	SET NEXT WORD LOCATION	TDL01210
ი ი 72	n	8009		A		KODO1		TDL01220
0073	0	DOFC .		STO		STORE		TDL01230
0074	0	COD4		LD		WENT		TDL01240
0075		9006		s		KOOD1		TDL01250
				STO		WCNT		TDL01260
0076		0002						
0077		4820		BSC		Z		TDLD 1270
0078		70DF		MDX		SR TR D		TDL01280
0079	0	7028		MOX		DATA		TDL01290
007A		7099	HOP	MDX		/0014	START PROGRAM	TDLC1300
		~	*				2	TDL01310
00.70	^	0000	CACIIN	DC		10000		
0078		0000	CKSUM			/0000		TDL01320
0070		0001	K0001			/0001	READ CARD CONTROL COMMAND	TDL01330
0070		10 10		OC		/1010		TDL01340
007E	0	0000	RESET	DC		/0000	RESET OSW CONTROL COMMAND	TDL01350

ATE	OIMAY
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DOAE D DOCC

OOAF D CDFD

00B0 D 80CB

OOB1 D DOFB

00B2 0 FDD1

0083 0 4820

D084 0 70F6

0085 D COC5

0086 0 4820

DOB7 0 30F6

66 0 C

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O 1MAY66 EC NO. 415490C 0098 0 482D 0099 D 70FA DD9A D 7DBE 0098 0 00DD 0D9C D 0000 0D9D C 0000 DD9E D ODOO 009F 0 00D0 0000 C 0A00 0001 0 0000 \*--- CHECK FOR WORD COUNT OF ZERO-----ODA 2 D CO91 DATA LD 00A3 0 4820 00A4 0 7002 ODA5 0 3DF5 00A6 D 70A9 \*---- FDRM CHECK SUM DF CARD IMAGE LOCS.\*10-36----ODAT O CODE SUM1 DOA8 0 DOO4 00A9 0 1810 DOAA O DODO COAS O COCF DOAC OO 8400FFFF CKLOD A

BASIC DIAGNOSTIC LDADER

PAPER TAPE BASIC LOADER

DD7F 0 1F01

0080 0 0004

0081 0 1F00

0D82 0 004E

D083 0 1A00

0D84 D D037 DD85 0 D034

D086 0 D010

0087 D D00D

DD88 0 DD00 DD89 0 D000

0000 0 A800

008B D D00D

DOSC D ODDO 0000 0 0000

D08E 0 D000

D08F 0 DD00

0090 0 0000

0091 0 0000

0092 0 0000

0093 0 00D0

0094 D F087 0D95 0 30F4

0096 0 7002

0097 0 F0B2

## BASIC DIAGNOSTIC LOADER PAPER TAPE BASIC LOADER

008A 0 008B 0 00BC 0 008D 0 0DBE 0 D08F 0	C4000035 4820 7001 798D D00C CDC7 D001 C400FFFF 7D06	MOVE STRE GET	BSC MDX MDX STD LD STD LO MDX	L	/D035 Z STRE HOP PUT+1 KOD10 GET+1 /FFFF PUT	GET ADDRESS FOR FIRST WORD SKIP ADDRESS IS DDOD START PROGRAM VIA HOP SET FIRST WORD ADDRESS SET ACC. EQU. DO 10 SET TD GET FIRST WORD AT O GET PROG. WORO	TDL02D40 TDL02D50 TDL02D60 TDL02070 TDL02080 T0L02090 T0LD2110 TDL02110 T0L02120 T0L02130
00C3 0 00C4 D 00C5 0 D0C6 0 00C7 0	0D10 0000 0000 0000 0000	*	DC OC DC DC DC		/DD10 .		TDL0 2140 TDL0 2150 TDL0 2160 TDLD 2170 TOL0 2171 TOL0 2172 TDLD 2180
00C9 00 00C8 0 00CC 0 00CD 0 00CE 0 00CF 0	D400FFFF COFE 80AF DOFC COF2 80AC DOFO	PUT	STO LD A STD LD A STD	L	/FFFF PUT+1 KD001 PUT+1 GET+1 KO0D1 GET+1	PUT PROG. WORD MODIFY PUT MODIFY GET	TDLD 2190 TDLD 2200 TOLO 2210 TDLO 2220 TDLO 2230 TOLD 2240 TOLO 2250
0001 0 0002 0 0003 0 0004 00 0006 0 0007 0	F083 4820 70EC C4000035 0003 C0AE D003	SUM2	BSC MDX LD STO LD STD	ι	KO034 Z GET /D035 CKMOV+1 KO010 COMP+1	CHECK FOR ALL WORDS MOVED SKIP ALL WORDS MOVED  GET ADDRESS OF FIRST WORD PUT IT INTO ROUTINE SET TO GET FIRST WORD OF IMAGE	TOLO2260 TDL02270 TOL02280 TDLD2290 TOLD2309 TDL0231D TDL02320
	C400 FFFF F400FFFF 4820 30F7 C0FA 8098 D0F8 C0F9 8098 D0F7	COMP	ED EOR BSC WAIT LD A STO LD A STO	L L	/FFFF /FFFF Z -9 CKMOV+1 KOCO1 CKMOV+1 COMP+1 KOCO1 COMP+1	GET MORD MOVED COMPARE WITH CARD IMAGE SKIP WORD STORED OK **ERR. WORD NOT STORED DK. MODIFY FOR NEXT WORD  MODIFY FOR NEXT COMPARE	TDL02330 TOL02340 TOL02350 TDL02350 TDL02370 TOL02380 TDLD2390 TDLD2390 TDLD2400 TOL02410 TOL02420
00E5 0 D0E6 0 ODE7 0 O0E8 0 D0E9 DDEA	F09F 4820 70F1 708D 0D00 0050	END	EDR 8SC MDX MDX BSS END		KDD34 Z CKMOV SUM1-1 O LOAO	CHECK IF ALL DONE SKIP ALL WORDS CHECKED GO GET NEXT CARD	TDL02430 TDL02440 TDL02450 TDL02460 TDLD2470 TOL02480

BASIC DIAGNOSTIC LOADER PAPER TAPE.8ASIC LOADER

# CROSS REFERENCE LISTING

```
SYMBOL VALUE
                 REFERENCES
CHKSM
       0020
                  0012,0C15,D01C
CKLOD
       OOAC
                 COAB, DCAF, DOB1, COB4
CKMPV
       0009
                 00D6,00DF,00E1,00E7
CKSUM
       0078
                 OOAA,OCAB, OOAE, OCB5
COMP
       D008
                 00DB,00E2,00E4
CONT1
       D097
                  00 5D
CON1
       .0043
                 DD 50
CON2
        0044
                  0052,006A
CON3
        0045
                  0054
DATA
       DOA2
                  0079
DELET
       D946
                  0061
END
       00E9
                  00 21
ERRDR
       0D94
                  00 99
FIX
        0047
                 D0 65
GET
        ODCD
                 OOBF,DDCE,OODC,OOD3
HOP
        007A
INT
       DO3A
                  00.00
KECFD
       OD4B
                 0D 5A
KOCOO
       004C
                  00 94
                  0017,0058,0068,0072,0075,0CB0,D0CC,00CF,00E0,00E3
K0001
       007C
KDD 10
       00B6
                  00A7,00B2,D007
                 DOD1 .00E5
KD034
       00 B 5
KD037
       0084
                 00 BZ
K4CD0
       DD4A
                  D0 97
K40D0
       0D40
                 DD 5B
LAST
        0021
                 0019
                 001F,00A6,00E9
LOAD
       0050
MOVE
       CDB8
PACK
       0D5E
PUT
        0009
                 00BD,0CC2,00CB,0CCD
       004F
ROEVN
                 D044,004B,0060,006D,0082
RDIN
        0082
                  0053,0C5F,0067,0D69
RDDDD
       004F
                  00 6F
REFIX
       0048
                 00 56
RESET
       DD7E
                  D03B,0D5E
SENSE
       0080
                  D059
SRTRO
       0058
                 D064,D06C,0078,0096,009A
STORE
                 D043,0051,0071,0073
       0070
STRE
       COBD
                 00 BC
                 0000,0016,0018,0018
STRT
       D012
SUM1
       00A7
                  00A4,00E8
SUM2
       0004
                 D055,0C74,0076
WCNT
       D049
        0060
                 0047,DC4B,0057,0066
                 0D 47
       0067
```

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#### PURPOSE

THE ONE-CARD PROGRAMS ARE SHORT TESTS USED TO HELP ISOLATE FAILING FUNCTIONS THAT KEEP THE BASIC DIAGNOSTIC LOADER FROM OPERATING CORRECTLY. THERE ARE SEVEN ONE-CARD PROGRAMS, SEQUENCE NUMBERED OI THROUGH OF IN HOLLERITH - HEXADECIMAL CODE IN COLUMNS 79 AND 80. EACH PROGRAM IS RUN INDIVIDUALLY AND IS LOADED INTO CORE STORAGE USING THE PROGRAM LOAD MODE. REFER TO PARAGRAPH 5., COMMENTS, FOR PURPOSE AND DESCRIPTION OF FACH ONE-CARD PROGRAM.

INCLUDED IN THE APPENDIX, PARAGRAPHS 6.1 AND 6.2, ARE MANUAL FNTRY TEST PROGRAMS WHICH ARE LOADED BY MEANS OF THE CONSOLE ENTRY SWITCHES,. ONE PROGRAM IS A DATA PATH TEST, AND THE OTHER IS AN ADD TEST. THESE PROGRAMS PROVIDE ADDITIONAL AID IN ISOLATING MALEUNCTIONS.

## 2. PREREQUISITES

2.1 PROGRAM PREREQUISITES

IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

NO ADDITIONAL PROGRAMS ARE REQUIRED.

2.2 FQUIPMENT PREREQUISITES

- A. 1131 CENTRAL PROCESSING UNIT (CPU).
  B. 1442 CARD READ/PUNCH OR PAPER TAPE.
- B. 1442 CARD READ/PUNCH OR PAPER TAPE.
  C. 2501 CARD READER (USE ONLY CARDS 1-6) 7=FRROR.

## 3. USE PROCEDURE

## 3.1 GENERAL INFORMATION

THE FASTEST WAY TO ISOLATE A FAILURE WITH THE ONE-CARD PROGRAMS IS TO STEP THROUGH EACH ONE-CARD PROGRAM LOOKING FOR ONE OF THE ERROR CONDITIONS POSSIBLE.

THE POSSIBLE FRROR CONDITIONS ARE,

- A. STOP AT ERROR WAIT.
- B. INCORRECT REGISTER READINGS AT A NORMAL WAIT.
- C. FAILURE TO STOP AT A NORMAL WAIT.

IF THE ABOVE ERROR CONDITIONS DO NOT OCCUR, IT WILL BE NECESSARY TO RELY ON WHATEVER ERROR CONDITIONS APPEAR.

NOPMAL WAITS-300X. NORMAL WAITS HAVE AS THEIR LAST DIGIT THE NUMBER OF THE ONE-CARD PROGRAM WHERE THEY OCCUR. FOR EXAMPLE WAIT 3003 IDENTIFIES A NORMAL WAIT IN ONE-CARD PROGRAM 03. WHEN A PROGRAM HAS MORE THAN ONE NORMAL WAIT, REFERENCE TO THE INSTRUCTION ADDRESS REGISTER READING IS NECESSARY, TO CORRECTLY IDENTIFY THE WAIT.

ERPOR WAITS — 30FX. THE LAST DIGIT OF AN ERROR WAIT IDENTIFIES THE ONE—CARD PROGRAM WHERE WAIT OCCURS. THE NEXT TO LAST DIGIT, E, 1DENTIFIES THE WAIT AS BEING AN ERROR WAIT. WHEN MORE THAN ONE FRROR WAIT OCCURS IN A ONE—CARD PROGRAM, REFERENCE TO THE INSTUCTION AODRESS REGISTER IS NECESSARY TO CORRECTLY IDENTIFY THE ERROR WAIT.

WHEN AN ERROR INDICATION OCCURS, THE LISTING OF THE PROGRAM BEING EXECUTED MUST BE REFERENCED TO DETERMINE THE CAUSE OF THE FRROR. CORRECT LOADING SHOULD BE VERIFIED BY DISPLAYING CONTENTS OF LOCATIONS WHERE THE PROGRAM IS STORED. THE PROGRAM SHOULD THEN BE RUN IN SI MODE TO LOCATE POINT OF FAILURE.

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- 3.2 OPERATING PROCEDURE
  - A. PLACE ALL SEVEN ONE-CARD PROGRAMS, FOLLOWED BY DECK OF BLANK CARDS IN 1442 HOPPER AND PRESS START BUTTON.
  - B. CLEAR CORE STORAGE TO 33FF AS FOLLOWS.
    - SET MODE SWITCH TO RUN.
    - 2. SET CONSOLE ENTRY SWITCHES TO 33FF.
    - 3. TURN ON STORAGE LOAD SWITCH (ON CE PANEL).
    - 4. PRESS START.
    - 5. PRESS IMM STOP.
    - 6. TURN DEF STORAGE LOAD SWITCH (ON CE PANEL).
  - C. PRESS IMM STOP KEY.
  - D. PRESS RESET KEY.
  - E. PRESS PROGRAM LOAD.

ONE-CARD OI SHOULD LOAD AND PROGRAM SHOULD STOP AT NORMAL WAIT 3001 (1AR = 0002). FROM THIS POINT ON, PROCEED ACCORDING TO INSTRUCTIONS GIVEN FOR THE WAIT THE PROGRAM HAS STOPPED AT. SEE TABLE 1 FOR NORMAL WAITS, AND TABLE 2 FOR ERROR WAITS.

## TABLE I. NORMAL WAITS

NOTE. IN THIS TABLE SBR=STORAGE BUFFER REG. IAR=INSTRUCTION ADDRESS REG. AND ACC=ACCUMULATOR.

*******	*************
* WAITS *	*
*********	INDICATES / ACTION
* SBR * IAR *	i i i i i i i i i i i i i i i i i i i
*****	***************
* * *	•
* 3001 * 0002 *	ACCUMULATOR SHOULD READ FOFO. IF OK PRESS START. *
* * *	IF NOT FOFO ERROR IS INDICATED. REPAIR IF CAUSE IS CLEAR. *
* * *	IF NOT, CONTINUING TEST MAY HELP
* * *	*
* 100) * 0004 *	ACCUMULATOR SHOULD READ 080F. IF OK PRESS START. #
* * *	IF NOT D80F ERROR IS INDICATED. REPAIR IF CAUSE IS CLEAR. *
* * *	IF NOT, CONTINUING TEST MAY HELP.
* 3001 * 004F *	*
* * * *	OFPRESS IMM STOP, RESET, AND PROGRAM LOAD BUTTONS TO LOAD CARD *
	02. FAILURE OF PROGRAM TO STOP AT THIS WAIT INDICATES FAILURE *
* * *	OF AN MOX OPERATION. STEPPING THROUGH PROGRAM IN SI MODE MAY *
* * *	HELP LOCATE FAILURE. IF CAUSE OF FAILURE IS CLEAR, REPAIR. *
* * *	IF THE FAILURE IS NOT CLEAR CONTINUING MAY HELP TO IDENTIFY * THE FAILURE.
*	*
* 3002 * 003F *	ACCUMULATOR SHOULD READ 003E. IF OK LOAD CARD 03 BY PRESSING *
* * *	IMM STOP, RESET, AND PROGRAM LOAD BUTTONS. IF ADD. IS NOT *
* * *	003E, AN ERROR HAS OCCURRED. STEP THROUGH PROGRAM IN SING INST *
* * *	MDDE, CHECKING THAT IAR AND ACC DISPLAY THE SAME INFORMATION *
* * *	AND ARE INCREMENTED BY ONE AT EACH STEP.
*	
* 3003 * 0021 *	ACC SHOULD READ 0001. IF OK PRESS START. *
* * *	IF ACC IS NOT 0001, AN ERROR HAS OCCURED. STEP THROUGH *
* * *	PROGRAM IN SI MODE, CHECKING THAT (1) ACC CONTAINS A ONE IN *
* * *	BIT 0, (2) EACH SRA 1 INSTRUCTION IS EXECUTED PROPERLY. AND (3)*
* * *	NO BSC Z CAUSES A SKIP UNLESS ACCUMULATOR EQUALS ZERO. *
~~~~~*~~~~*~	*

TABLE 1. NORMAL WAITS (CONTINUED)

IRM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

ONE-CARD DIAGNOSTIC PROGRAMS

***	***	*****	*************
*	WA	ITS	*
*		******* * IAR :	INDICATES / ACTION
***	***	*****	
* 3 * *	003	* 0025 : * :	* ACC SHOULD READ 0000. IF CK PRESS START.  * IF ACC IS NOT 0000. ERROR HAS OCCURRED. SI THROUGH PROGRAM  * FROM LOCATION 0021. COMPARE RESULTS OF TEST WITH LISTING.  *
* 3 * * * *	1	<b>k</b> 1 <b>k</b> 1	* ACC SHOULD READ OFOF. IE CK PRESS START.  * IF ACC IS NOT OFOF, ERROR HAS OCCURRED. SI THROUGH PROGRAM  * FROM LOCATION 0025. COMPARE RESULTS OF TEST WITH LISTING.  * CHECK FOR SINGLE-BIT OMISSION. TRY SWAPPING APPROPRIATE SLT  * CARDS. (SEE LISTING).
* 3	003	* *	* ACC SHOULD READ FFFF. IF CK PRESS START.  * IF ACC IS NOT FFFF, ERROR HAS OCCURRED. SI THROUGH PROGRAM  * FROM LOCATION 00?E. COMPARE RESULTS OF TEST WITH LISTING.
* 3 * *	003	* *	* ACC SHOULD READ FFEE. IF CK LOAD CARO 04 BY PRESSING IMM STOP. * * RESET, AND PROGRAM LOAD BUTTONS * IF ACC IS NOT FFFF, ERROR HAS OCCURRED. SI THROUGH PROGRAM * FROM LOCATION 002E. CCM RE RESULTS OF TEST WITH LISTING. *
* 3	004	* 4	* ACC SHOULD READ FFEF. IF CK PRESS START.  * IF ACC IS NOT FFFF, ERROR HAS OCCURRED. SI THROUGH PROGRAM.  * COMPARE RESULTS OF TEST WITH LISTING.
* 3:	004	· 1	* **ACC SHOULD READ 0000. IF CK PRESS START.  **  **** NOTE ***  **  **** FIF NO FRRORS OCCUR, THIS PROGRAM SHOULD RUN CONTINUOUSLY UNTIL *  **********************************
* * *	* * **	* * **	* IF ACC IS NOT 0000, ERROR HAS OCCURRED. SI THROUGH PROGRAM * FROM LOCATION 001E. REFER TO LISTING. *
* 3( * * *	005 * * * *	* *	* PRESS RESET THEN START TO CONTINUE.  **MOST LIKELY ERROR WILL BE FAILURE OF PROGRAM TO STOP AT THIS *  **WAIT. REFER TO LISTING. REFER TO PARAGRAPH 5.2.5 OF THIS *  **DDCUMENT FOR DESCRIPTION OF CARD 05 PROGRAM.  **
* 30 * * * * *	005 * * * * * *	* *	**ACC SHOULD READ OFAF. IF OK LOAD CARD 06 BY PRESSING IMM STOP, ** RESET, AND PROGRAM LOAD BUTTONS.  IF ACC IS NOT OFAF, IT INDICATES THAT THE NUMBER OF LOCATIONS ** TESTED IS INCORRECT, ERROR MAY BE CAUSED BY ADO FAILURE, WHICH ** SHOULD BE DETECTABLE BY CARD 04 PROGRAM. PRESS START TO ** RESTART PROGRAM. **

# TABLE 1. NORMAL WAITS (CONTINUED)

	*************
**************************************	*
********	INDICATES / ACTION
SBR * IAR *	* ************************************
3006 * 002F *	A. SET CONSOLE ENTRY SWITCHES TO 0003 (BUSY, NOT READY SIMULATED BOOK). PRESS START. PROGRAM SHOULD RETURN TO THIS WAIT. IF OK PRESS START TO REPEAT TEST OR GO TO STEP 8.
* * *	*
* *	IF PROGRAM STOPS AT WAIT B=30F6, REFER TO TABLE 2 - FRROR SWAITS, FOR APPROPRIATE ACTION.
* * * * * * * * * * * * * * * * * * *	* B. SET CONSOLE ENTRY SWITCHES TO 0800 (END OF CARD SIMULATED DSW). PRESS START. PROGRAM SHOULD RETURN TO THIS WIAT. IF OK PRESS START TO REPEAT TEST, OR GO TO STEP C.
* * :	F IF PROGRAM STOPS AT WAIT B=30F6, REFER TO TABLE 2 - ERROR WAITS, FOR APPROPRIATE ACTION.
*	<ul> <li>C. SET CONSOLE FNTRY SWITCHES TO 8003 (COL. REQUEST, BUSY, NOT:</li> <li>READY SIMULATED OSW). PRESS START. PROGRAM SHOULD RETURN TO</li> <li>THIS WAIT. IF OK PRESS START TO REPEAT TEST, OR GO TO STEP</li> <li>O.</li> </ul>
* *	*  * IF PROGRAM STOPS AT WAIT B=30F6, REFER TO TABLE 2 - ERROR  * WAITS, FOR APPROPRIATE ACTION.  *
* * * * * * * * * * * *	* D. SET CONSOLE ENTRY SWITCHES TO AN INVALIO DSW SETTING (OTHER THAN 0003, 0800, OR 8003). PRESS START. PROGRAM SHOULD STOP AT ERROR WAIT B=30F6, INDICATING THAT THE PROGRAM CORRECTLY SENSES AN ERROR OSW. PRESS START TO RETURN TO WAIT B=3006 (THIS WAIT) TO REPEAT TEST WITH SAME, OR DIFFERENT INVALID DSW.
*	* E. AFTER DETERMINING THAT CARD 06 PROGRAM REACTS CORPECTLY TO  * THE SIMULATED DSW'S, LOAD CARD 07 BY PRESSING IMM STOP,  * RESET, AND PROGRAM LOAD BUTTONS.
*	* A. ACC AND ACC FXTENSION SHOULD READ FFFF. IF OK GO TO STEP B.  * IF NOT FFFF, LOAD DOUBLE OR ADD DOUBLE ERROR HAS OCCURRED.  * SI THROUGH PROGRAM. REFFR TO LISTING.
* * *	* B. TURN ON INTERRUPT DELAY SWITCH ( ON CF PANEL ).  * C. PRESS START. BLANK CARDS SHOULD FFFD CONTINUOUSLY THROUGH  * THE READ STATION OF THE 1442.
* *	*
* * * * * * * * * * * * * * * * * * *	* THERE ARE NO OTHER WAITS IN CARD OF PROGRAM IN ORDER TO  * PERMIT SCOPING OF X10 FUNCTIONS. CHANGE NO OP INSTRUCTION  IN LOCATION 002C TO AN ERROR WAIT (30F7) TO CAUSE PROGRAM
* * *	* TO STOP ON ERROR DSW.
* *	* D. PRESS STOP TO TERMINATE PROGRAM
* * *	* * E. TURN OFF INTERRUPT DELAY SWITCH (ON CF PANEL).
* *	**************************************

TABLE 2. FRENR WAITS

NOTE. IN THIS TABLE SBR=STORAGE BUFFER REG, IAR=INSTRUCTION ADDRESS REG, AND ACC=ACCUMULATOR.

WAI		**************************************
RD ±	TAP #	
*****	*****	****************
• sofi	* 0006 *	STOPPING AT ANY ONE OF THIS WAITS INDICATES FAILURE OF MOX
*	TO *	OPERATION. SI THROUGH PROGRAM. IF FAILURE APPEARS AND ITS
*	0040 *	CAUSE IS CLEAR, REPAIR. IF CAUSE OF FAILURE IS NOT CLEAR,
*		RIJNNING APPLITIONAL ONE-CARD PROGRAMS MAY HELP IDENTIFY THE
*	* *	FAILURF.
30F3 *	0024 *	ACC NOT 0000 WHEN TESTED. SI THROUGH PROGRAM CHECKING THAT
*	*	(I) ACC CONTAINS A ONE IN SIT O. (2) EACH SRA 1 INSTRUCTION
4		IS EXECUTED CORRECTLY, AND (3) A SKIP OCCURS WHEN ACC EQUALS
*	. *	0000.
30F3 #	. 0036 *	ACC NOT 0000 WHEN TESTED. SI THROUGH PROGRAM FROM LOCATION
		OOSE. COMPARE RESULTS OF TEST WITH LISTING.
*	**	
30F4 4		LOX LONG FAILURE. SI THROUGH PROGRAM. COMPARE RESULTS WITH
*		LISTING.
	0020 #	SUM OF SUMPL AND SUMMI IS NOT EQUAL TO 0000. IF THEIR SUM
*	× *	SHOULD FOUAL OOOD. DIAGNOSE AND CORRECT TROUBLE. IF THEIR SUM
1	k #	SHOULD NOT BE 0000, RUU MANUAL-ENTRY ADD TEST (PARAGRAPH 6.2).
	·	SUM OF LOCATIONS 0014 THROUGH 004F IS NOT 0000. ACC CONTAINS
30F5 3	* 00TF 4	OBTAINED SU. (I) RELOAD CARD 05. (2) RUN IN SI MODE THROUGH
		LOCATION 0010, (3) DISPLAY REMAINDER OF PROGRAM, AND (4)
*		COMPARE RESULTS WITH LISTING.
:	* 4	
		IF NO FRROR IS EVIDENT, SI THROUGH CHECKSUM LOOP (LOCATIONS
	k 4	OOI2 THROUGH OOIA).
	k ‡	IF NO FRROR IS EVIDENT, (1) RELOAD CAPO 05, (2) SI THROUGH
,	* *	: INCATION 0008. (3) INSERT WAIT OP IN LOCATION 0011, (4) SET
	¢ *	70F6 IN LOCATION DOIA, AND (5) RUN CHECKSUM LOOP USING SI MODE
		FOR LOCATIONS 0011 AND 0013. VERIFY CHECKSUM ADDITION. REPAIR
	\$	ANY FAILURES DISCOVERED.
30F5	* 003B =	A LOCATION DOES NOT CONTAIN ITS OWN ADDRESS PLUS ONE. PERFORM
:	<b>k</b> 1	FOLLOWING INSTRUCTION IN SI MODE. ADDRESS OF LOCATION IN ERROR
:	<b>*</b>	WILL BE IN ACC. DISPLAY ERROR LOCATION. IT SHOULD CONTAIN ITS
		FOWN ADDRESS PLUS ONE, AS A RESULT OF EXECUTING A BSI-1 AT THATE LOCATION. DIAGNOSE AND CORRECT.
	<b>*</b> :	
30F6	* 002D	* A. IF PROGRAM STOPS AT THIS WAIT FOLLOWING SETTING OF A VALID
-		SIMULATED DSW IN CONSOLF ENTRY SWITCHES (0003, 0800, 8003).
	•	AN FROOR IN INTERPRETING THE DSW HAS OCCURRED. SI THROUGH
	*	PROGRAM AND REFER TO LISTING, TO LOCATE CAUSE OF ERROR.
	∓ : * :	* * B. IF PROGRAM STOPS AT THIS WAIT AFTER SETTING AN INVALID
	•	IN THE CONSOLE ENTRY SWITCHES, THE PROGRAM OPERATED
	*	CORRECTLY. PRESS START TO RETURN TO NORMAL WAIT B=3006.
	*	* ************************************

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#### 4. PRINTOUTS (NOT APPLICABLE)

#### 5. COMMENTS

THE ONE-CARD DIAGNOSTIC PROGRAMS ARE DESIGNED TO HELP DIAGNOSE MALFUNCTIONS THAT OCCUR WHILE ATTEMPTING TO LOAD A PROGRAM WITH THE 1130 BASIC DIAGNOSTIC L DADER. THERE ARE SEVEN ONE-CARD PROGRAMS. EACH ONE-CARD PROGRAM TESTS A SPECIFIC FUNCTION OR GROUP OF FUNCTIONS. THE CARDS ARE NUMBERED FROM 01 THROUGH 07 IN HOLLERITH-HEXADECIMAL CODE IN COLUMNS 79 AND 80.

FUNCTIONS OF ONE-CARO DIAGNOSTIC PROGRAMS
THE SEVEN ONE-CARO PROGRAMS PERFORM THEFFOLLOWING FUNCTIONS.

A.	CARD O1.	TESTS MOX INSTRUCTION AND DATA TRANSFER FROM
β.	CARD 02.	INSTRUCTION ADDRESS REGISTER TO ACCUMULATOR. EXECUTES A SIMPLE-ADDITION TEST AND TESTS INCREMENTING OF INSTRUCTION ADDRESS REGISTER.

C. CARD 03. TESTS BSC Z, SRA 1, LO, STD, AND EDR INSTRUCTIONS AND DATA TRANSFER BETWEEN REGISTERS.

D. CARD 04. TESTS LONG FORMAT OF LD, A, STO, LDX, EOR.
TEST ADDITION OF POSITIVE AND NEGATIVE NUMBERS.

F. CARD 05. TESTS ADDRESSING OF LOCATIONS 0050 THROUGH OFFE.

F. CARD 06. DETERMINES WHETHER 1131 CPU CORRECTLY INTERPRETS SIMULATED DSW'S.

G. CARD 07. TESTS LOAD DOUBLE AND AOD DOUBLE INSTRUCTIONS, AND SETS UP LOOPS TO ALLOW X10 FUNCTIONS TO BE CHECKED WITH AN OSCILLOSCOPE. X10 ROUTINES ARE DIAGNOSTIC LOADER BUT OO NOT STOP ON OSW ERROR.

# 5.2 DESCRIPTION OF ONE-CARD DIAGNOSTIC PROGRAMS

## 5.2.1. CARO-031 PROGRAM

THE CARD-O1 PROGRAM LOADS ACCUMULATOR WITH FOFO FROM LOCATION 0030 AND STOPS AT WAIT INSTRUCTION WITH INSTRUCTION ADDRESS INDICATING 0002 , STORAGE BUFFER INDICATING 3001, AND ACCUMULATOR INDICATING FOFO. FAILURE OF INDICATOR TO APPEAR AS DESCRIBED INDICATES A POSSIBLE READ—IN FAILURE DURING PROGRAM LOAD OR FAILURE OF THE LOAD-ACCUMULATOR INSTRUCTION. FOLLOWING DEPRESSION OF START PUSHBUTTON BY OPERATOR, PROGRAM LOADS ACCUMULATOR WITH 080F FROM LOCATION 0031 AND STOPS AT WAIT WITH INSTRUCTION ADDRESS INDICATING 0004, STORAGE BUFFER INDICATING 3001, AND ACCUMULATOR INDICATING 080F. AGAIN, FAILURE IF INDICATORS TO APPEAR AS DESCRIBED INDICATES POSSIBLE READ-IN FAILURE OR LOAD-ACCUMULATOR FAILURE. NEXT DEPRESSION OF START PUSHBUTTON, THE PROGRAM PERFORMS A SERIFS OF MOX INSTRUCTIONS AND STOPS AT A WAIT WITH INSTRUCTION ADDRESS INDICATING 004E AND STORAGE BUFFER INDICATING 3001. IF PROGRAM STOPS AT ANY OTHER WAIT INSTRUCTION, AN MOX FAILURE IS INDICATED.

# 5.2.2 CARD-02 PROGRAM

ONE-CARD DIAGNOSTIC PROGRAMS

IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

THE CARD-02 PROGRAM TESTS ADD FUNCTION AND INCREMENTING OF STORAGE ADDRESS REGISTER. THE PROGRAM LOADS A CONSTANT OF 0001 IN ACCUMULATOR FROM LOCATION 003F AND CONTINUOUSLY ADDS THAT SAME CONSTANT UNTIL STOPPED BY WAIT INSTRUCTION WITH INSTRUCTION ADDRESS INDICATING 003E. THE ACCUMULATED TOTAL IS OISPLAYED BY ACCUMULATOR INDICATOR AND SHOULD BE 003E. ANY OTHER TOTAL INDICATES AN ADD-FUNCTION FAILURE OR INSTRUCTION ADDRESS REGISTER INCREMENT FAILURE

## 5-2-3 CARD-03 PROGRAM

- A. PART ONE TESTS THE SKIP-ON-ZERO OPERATION AND SHIFT-RIGHT-ONE OPERATION.
- B. PART TWO TESTS DATA TRANSFER BETWEEN REGISTERS AS FOLLOWS.
  - DATA TRANSFER FROM STORAGE BUFFER REGISTER TO ARITHMETIC FACTOR REGISTER TO ACCUMULATOR REGISTER.
  - 2. DATA TRANSFER FROM ACCUMULATOR REGISTER TO ACCUMULATOR EXTENSION REGISTER AND BACK TO ACCUMULATOR REGISTER.
  - 3. DATA TRANSFER FROM ACCUMULATOR REGISTER TO STORAGE BUFFER REGISTER.
- C. PART THREE TESTS OPERATION EOR FUNCTION.

#### PART ONE

PROGRAM SETS A 1 IN ACCUMULATOR-BIT O AND THEN TRIES TO SKIP-ON-ZERO. AS THE ACCUMULATOR IS NOT ZERO, PROGRAM FALLS THROUGH AND SHIFTS RIGHT ONE POSITION. TESTING FOR ZERO AND SHIFTING RIGHT ONE IS CONTINUED UNTIL PROGRAM IS STOPPED BY WAIT INSTRUCTION WITH INSTRUCTION ADDRESS INDICATING 0021. THE ACCUMULATOR SHOULD INDICATE 0001. ANY OTHER ACCUMULATOR INDICATION INDICATES FAILURE OF SRA 1 OR BSC Z.

AFTER DEPRESSION OF START PUSHBUTTON, PROGRAM PERFORMS A SHIFT-RIGHT-ONE OPERATION, AND SKIPS-ON-ZERO TO A WAIT 0025, STORAGE BUFFER INDICATING 3003. ACCUMULATOR SHOULD INDICATE 0000.

## PART TWO

UPON DEPRESSING START PUSHBUTTON, PROGRAM PERFORMS A SERIES OF ALTERNATE LO AND STO INSTRUCTIONS AND STOPS ON A WAIT INSTRUCTION WITH INSTRUCTION ADDRESS INDICATING 0030 AND STORAGE BUFFER INDICATING 3003. ACCUMULATOR INDICATION SHOULD BE OFOF, OR DATA-TRANSFER FAILURE IS INDICATED. FAILURE MAY BE OCCURRING DURING A LO OR STO INSTRUCTION.

## PART THREE

PROGRAM TAKES ACCUMULATOR CONTENTS OF OFF LEFT AT END OF PART TWO AND PEPFORMS EOR OPERATION WITH CONSTANT FOFD. THE FFFF RESULT IS STORED AT SYMBOLIC LOCATION KEFFF, AND PROGRAM STOPS ON WAIT INSTRUCTION WITH INSTRUCTION ADDRESS INDICATING 0033. ACCUMULATOR INDICATOR SHOULD INDICATE FFFF, OR EOR FAILURE IS INDICATED.

AFTER OFPRESSING START PUSHBUTTON, PROGPAM PERFORMS EOR OF FFFF IN ACCUMULATOR WITH FFFF CONTAINED AT SYMBOLIC LOCATION KFFFF TO SET ACCUMULATOR TO 0000. A SKIP-ON-ZERO OPERATION IS THEN ATTEMPTED. IF EOP INSTRUCTION FAILS TO ZEPO ACCUMULATOR, PROGRAM FALLS THROUGH TO AN ERROR WAIT INSTRUCTION WITH INSTRUCTION ADDRESS INDICATING 0036, STORAGE BUFFER INDICATING 30F3. IF THE SKIP-ON-ZERO IS SUCCESSFULLY COMPLETED, THE PROGRAM PERFORMS EOR DE 0000 IN ACCUMULATOR AND 0000 AT SYMBOLIC LOCATION KODOO. THE RESULTS OF EOR SHOULD BE D000. PROGRAM TESTS THAT ACCUMULATOR IS ODOO BY ATTEMPTING SKIP-DN-ZERO. FAILURE TO SKIP STOPS PROGRAM AT WAIT INSTRUCTION WITH INSTRUCTION AODRESS INDICATING 0039, AND STORAGE BUFFER INDICATING 30F3, ACCUMULATOR INDICATOR SHOULD DISPLAY RESULT OF FAULTY FOR.

IF PROGRAM SKIPS, PPOGRAM PERFORMS FOP OF 0000 IN ACC WITH CONSTANT FOFO IN SYMBOLIC LOCATION KFOFO. ACC CONTENTS BECOME FOFO. ANOTHER FOR IS PERFORMED WITH CONSTANT OFOF STDREO IN HIGHEST STORAGE LOCATION. PROGRAM STOPS AT WAIT WITH IAR REG EQUAL 003C AND SBR REG EQUAL 3003. ACC SHOULD READ FFF. ANY OTHER READING INDICATES FOR FAILURE.

#### 5.2.4 CARD-04 PROGRAM

THE CARO-04 PROGRAM LONG FORMAT OF LD, A, STO, LDX, EDP. THEN THE CARD-04 PROGRAM LONG FORMAT DE LD, A, STD, LDX, EOR. THEN PART OF THE PROGRAM MAKES UP LONG FORM INSTRUCTIONS THEN PEPFORMS AN LOX LDNG OVER AN ERROR WAIT. THE ERROR WAIT WITH INSTRUCTION ADOPESS INDICATING 0014 AND THE STORAGE BUFFER INDICATING 30F4 SHOWS A FAILURE OF THE LDX LONG FORMAT.

LDNG FORMAT FOR THE REMAINING TESTS ARE DONE WHEN THE PROGRAM MAKES UP CONSTANTS FFFF AND 0000. THESE CONSTANTS ARE DISPLAYED AT NORMAL WAITS. AT EACH OF THESE WAITS THE REGISTERS REFERENCED SHOULD BE CHECKED. IF THE REGISTERS ARE OK, START SHOULD BE PRESSED.

AFTER THE STAPT IS PUSHED FOLLOWING THE SECOND NORMAL WAIT, THE ADO TEST IS STARTED. THE AOD TEST MUST BE STOPPED BY THE OPERATOR.

THE ADD LOOP PROGRAM AODS A MINUS ONE (FFFF) TD SUMMI (SUM MINUS), AODS A PLUS ONE (0001) TO SUMPL (SUM PLUS), AND ADDS SUMMI AND SUMPL. THE RESULTANT SUM, WHICH SHOULD BE 0000, IS USED TO CHECK FOR ERROR. IF THE SUM IS 0000, THE LOOP IS REPEATED, IF SUM IS NOT 0000, PROGRAM STOPS AT ERROR WAIT WITH IAR REG EQUAL 002C AND SBP REG EQUAL 30F4. ACC DISPLAYS FPROR SUM.

## 5.2.5 CARD-05 PROGRAM

ONE-CARD DIAGNOSTIC PROGRAMS

IBM MAINTFNANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

TESTS ADDRESSING OF LOCATIONS 0050 THROUGH OFFE. AFTER INITIAL SETUP, PROGRAM LOADS A WAIT INSTRUCTION AT LOCATION DFFF AND LOADS A BRANCH TO SYMBOLIC LOCATION ( CHECK ) IN LOCATION 0000. THE PROGRAM FORMS A CHECKSUM OF LOCATIONS 0014 THROUGH 004F. IF CHECKSUM IS IN ERROR, PROGRAM STOPS AT WAIT INSTRUCTION WITH INSTRUCTION ADDRESS INDICATING 001F AND STORAGE BUFFER INDICATING 30F5. ACCUMULATOR INDICATOR OISPLAYS ERROR CHECKSUM.

IF CHECKSUM IS CORRECT PROGRAM LDADS A SERIES DF BSI -1
INSTRUCTIONS IN LDCATIONS 005C THROUGH OFFE AND BRANCHES TD
LOCATION 055D TO EXECUTE THF BSI -I CHAIN, WHICH CAUSES EACH
LOCATION FROM 0050 THROUGH OFFE TD CONTAIN ITS DWN AODRESS PLUS
ONE. THE PROGRAM THEN STDPS AT A WAIT INSTRUCTION WITH
INSTRUCTION ADDPESS INDICATING 1000 AND STORAGE BUFFER INDICATING
3005. UPON OFPRESSION OF RESET AND START PUSHBUTTONS PROGRAM
BRANCHES TO SYMBOLIC LOCATION ( CHECK).

THE [ CHECK) RDUTINE DETERMINES IF EACH LOCATION FROM 0050 THRDUGH OFFE CONTAINS ITS DWN ADDRESS PLUS ONE, KEEPS COUNT DE LOCATIONS TESTED, AND STOPS AT WAIT INSTRUCTION WITH INSTRUCTION ADDRESS INDICATING 004C AND STORAGE BUFFER INDICATING 3005. ACCUMULATOR SHOULD INDICATE DEAF, IF THE CONTENTS OF A LOCATION ARE IN FRROR PROGRAM STOPS AT WAIT INSTRUCTION WITH INSTRUCTION ADDRESS INDICATING 0038 AND STORAGE BUFFER INDICATING 30F5.

#### 5.2.6 CARD-06 PROGRAM

THE CAPO OF PROGRAM CHECKS THE 1131 CPU FOR CDRRECT RESPONSE TO A SIMULATED DSW. THE SIMULATED OSW IS SET IN THE CONSOLE ENTRY SWITCHES AND CAN BE A VALIO OR INVALID DSW. PDRTIONS OF THE CARO OF PROGRAM DUPLICATE SECTIONS OF CARO 1 OF THE 1130 BASIC DIAGNOSTIC LOADER. THERE ARE THREE VALID OSW'S.

- A. 8003 BITS 0,14 AND IS ON. CDLUMN REQUESTS, BUSY, AND NOT PEADY.
- B. 0003 BITS I4 AND 15 ON. BUSY AND NOT READY.
- C. 0900 BIT 4 DN. END OF CARD (CP CDMPLETE).

AFTER INITIAL SET UP, PROGRAM STOPS AT WAIT WITH IAR REG READING 002E AND SBR REG READING DF 3006, TO PERMIT DPERATOR TO ENTER A SIMULATED DSW IN THE CONSDLE ENTRY SWITCHES.

AFTER DEPRESSION OF START BUTTON, PRDGRAM READS SETTING OF CONSOLE ENTRY SWITCHES INTO CDRE AND THEN LOADS READING INTO ACC. IF THE READING IS 8003, THE PROGRAM REREADS THE SWITCHES AND STORES THE READING. PPOGRAM BRANCHES BACK TO NORMAL WAIT 3006 TO PERMIT ENTRY OF DIFFERENT DSW IF DESIRED.

IF THE READING IS NDT 8003, PROGRAM CHECKS FDR READING OF 0003. IF TRUE, PROGRAM BRANCHES BACK TD NDRMAL WAIT 3006 TO PERMIT ENTRY OF DIFFERENT DSW. IF 8003 READING IS NDT TRUE, PROGRAM READS CONSOLE SWITCHES AND CHECKS FOR ENTRY 0800. IF TRUE, PROGRAM ADDS 1 TO SUM WDRD ( WHICH CONTAINS NUMBER DF )800 CONDITIONS ENCOUNTERED 0. PROGRAM THEN BRANCHES TO NDRMAL WAIT 3006 TO PERMIT ENTRY OF NEW DSW. IF 0800 CONDITION IS NOT TRUE, PROGRAM STOPS AT ERROR WAIT WITH IAR REG READING DF 0020. ACC DISPLAYS ERROR OSW. PRESSING START BRANCHES PROGRAM TD NORMAL WAIT 3006 TD PERMIT ENTRY DF NEW DSW. IF IT IS DESIRED TO LOOP PROGRAM DN A SINGLE DSW, THE NORMAL WAIT THAT PERMITS ENTRY DF OSW\*S, MAY BE CHANGED TO A NO DP

# 5-2-7 CARD-07 PRDGRAM

PART ONE OF CARD O7 PROGRAM TESTS LDAD DOUBLE AND ADD DOUBLE INSTRUCTIONS. AT THE END DE THE TEST, PROGRAM STOPS AT NORMAL WAIT 3007, WITH IAR READING DE 0006. THE ACCUMULATOR AND ACCUMULATOR EXTENSION SHOULD READ FEFF, OR AN ERROR IS INDICATED. PRIDR TO DEPRESSING THE START KEY TO CONTINUE TO PART TWO, OPERATOR MUST TURN ON THE INTERRUPT DELAY SWITCH ON THE CE PANEL.

PART TWO OF CARD O7 PROGRAM IS DESIGNED TO PERMIT SCOPING DE THE X10 FUNCTIONS, WHILE CONTINUOUSLY READING CARDS WITH THE 1442. THE READ-CARD ROUTINE IS A DUPLICATE OF READ-CARD ROUTING IN CARD 1 OF THE 1130 BASIC DIAGNOSTIC LOADER.

AFTER INITIAL SET UP, PRDGRAM CAUSES CARD TD FEED, RESET OSW, AND SENSE DSW. IT THEN CHECKS DSW FDR A 8003 INDICATION. IF TRUE, PROGRAM READS CARD COLUMN INTO LOCATION 0000 OR 0D01. ODD NUMBERED COLUMNS ARE READ INTO LOCATION 0001. EVEN NUMBERED CARD COLUMNS ARE READ INTO LOCATION 0000. PRDGRAM THEN LDADS ACC FROM LOCATION JUST LOADED, AND BRANCHES BACK TD RESET AND SENSE DSW, AND CHECK FOR 8003 DSW AGAIN.

IF DSW IS NOT 8003, THE PROGRAM CHECKS FOR A ODO3 DSW. IF TRUE, PROGRAM BRANCHES BACK TO SENSE DSW AND CHECK FOR 8003 OSW. PROGRAM WILL REMAIN IN THIS CLOSED LOOP UNTIL THE 8003 CONDITION IS TRUE OR THE 0003 CONDITION IS NOT TRUE. WHEN THE PROGRAM FINDS THE 0003 CONDITION NOT TRUE, IT SENSES AND RESETS THE OSW AND CHECKS FOR 0800 CONDITION. IF TRUE, PROGRAM BRANCHES TO START ANOTHER CARD FEEDING AND REPEATS THE ENTIRE PROCESS. IF 0003 IS NOT TRUE, PROGRAM WILL AGAIN BRANCH TO START ANOTHER CARD FEEDING. THE OPERATOR HAS AN OPTION TO STOP THE PROGRAM AT LOCATION 002C BY INSERTING A WAIT.

## 6. APPENDIX

ONE-CARD DIAGNOSTIC PROGRAMS

# 6.1 DATA PATH TEST PROGRAM

THIS PROGRAM IS LOADED USING THE CONSOLE ENTRY SWITCHES AND TESTS THE ABILITY OF THE 1131 CPU TO TRANSFER ONES AND ZEROES BETWEEN THE FOLLOWING REGISTERS.

- A. FROM STORAGE BUFFER REGISTER TO ARITHMETIC FACTOR REGISTER TO ACCUMULATOR REGISTER TO STORAGE ADDRESS REGISTER TO INSTRUCTION ADDRESS REGISTER.
- B. FROM ACCUMULATOR REGISTER TO ACCUMULATOR EXTENSION REGISTER TO ACCUMULATOR REGISTER.
- C. FROM ACCUMULATOR REGISTER TO STORAGE BUFFER REGISTER.
- O. FROM INSTRUCTION ADDRESS REGISTER TO STORAGE BUFFER REGISTER.
- E. FROM INSTRUCTION ADORESS REGISTER TO ACCUMULATOR REGISTER.

## 6.1.1 TEST PROCEDURE

- A. CLEAR STORAGE TO WAIT INSTRUCTION 33FF. SEE PARAGRAPH 3.3.6.
- B. ENTER THE FOLLOWING PROGRAM USING CONSOLE ENTRY SWITCHES.

NOTE

ALL NUMBERS SHOWN BELDW ARE IN HEXADECIMAL NOTATION.

LOCATION	CONTENT	MNEMDNIC	COMMENTS
FFFA	8000	LD	LDAD ACCUMULATOR WITH CONTENTS OF LOCATION 0001.
FFFB	4480	BSII	STORE CONTENTS OF I COUNTER (FFFD) AT ADDRESS STORED IN LOCATION FFFD. SET I COUNTE TO THAT ADDRESS AND ADD ONE TO I COUNTER.
FFFC	FFFD		ADDRESS POSITION OF BSI I INSTRUCTION.
FFFD	FFFD		THIS IS THE ACTUAL BRANCH ADDRESS FOR THE THE BSI I INSTRUCTION AND IS REPLACED BY THE BSI I.
FFFE	D005	STN	STORE CONTENTS OF ACCUMULATOR AT LOCATION 0001 (SHOULD NOT CHANGE).
FFFF	COFC	£D.	LDAD ACCUMULATOR WITH CONTENTS OF LOCATION FFEC.
0000	4480	BSI I	STORE CONTENTS OF I COUNTER (0002) AT ADDRESS STORED IN LOCATION 0002. SET I COUNTER TO THAT ADDRESS AND ADD ONE TO I COUNTER.
0001	0003		THIS IS ADDRESS POSITION OF BSI I INSTRUCTION.
0002	0002		THIS IS THE ACTUAL BRANCH ADDRESS FOR THE BSI I INSTRUCTION AND IS REPLACED BY THE BSI I INSTRUCTION.
0003	DOF8	STO	STORE CONTENTS OF ACCUMULATOR AT LOCATION FFFC ( SHOULD NOT CHANGE ).
0004	70F5	MDX	BRANCH TO LOCATION FFFA.

- C. LOAD INSTRUCTION ADDRESS REGISTER WITH FFFA.
- O. STEP THROUGH PROGRAM IN SI MODE, CHECKING THAT PROGRAM LOOPS PROPERLY. ANY DATA-PATH ERROR SHOULD RESULT IN THE IMPROPER BRANCHING OF A BSI I INSTRUCTION AND STOPPING AT A WAIT. THE LOCATION BEFORE THE WAIT SHOULD CONTAIN THE CONTENTS OF INSTRUCTION ADDRESS REGISTER WHEN THE BRANCH OCCURRED. LOGICAL RECONSTRUCTION OF THE ERROR SHOULD ISOLATE A DATATRANSFER ERROR AND SUGGEST THE CIRCUIT CARD CAUSING THE ERROR.

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ONE-CARD DIAGNOSTIC PROGRAMS

NOTE

A BRANCH OUTSIDE OF THE PROGRAM INTO A CORE LOCATION LOADED WITH 33FF INDICATES AN ERROR HAS OCCURRED. SUBTRACT TWO FROM INSTRUCTION ADDRESS INDICATOR READING AND DISPLAY LOCATION. THE CONTENT OF LOCATION DISPLAYED IS THE INSTRUCTION ADDRESS REGISTER SETTING WHEN THE FRRONEDUS BRANCH DCCURRED. IF THE BRANCH WAS CAUSED BY A BSI I INSTRUCTION FAILURE, THE LOCATION JUST CHECKED WILL HAVE 4 VALUE HIGHER BY DNE THAN THE ADDRESS OF THE SECOND WORD OF THE BSI I INSTRUCTION. IF THIS IS THE CASE, DISPLAY LOCATIONS WHERE PROGRAM IS STORED TO DETERMINE IF THE LOCATIONS HAVE CHANGED. THE ADDRESSES DE BSI I INSTRUCTIONS ARE STORED BY THE STO INSTRUCTIONS, AND THE LOCATIONS FFFD AND 0002 ARE STORED BY THE BSI I INSTRUCTIONS. STATIC OR INTERMITTENT DATA TRANSFER ERRORS SHOULD BE READILY DE-TECTED BY THIS MEANS AND BE EASY TO ISDLATE BECAUSE OF THE UNIQUE FAILURE INDICATIONS.

FRRORS IN THE DATA PATH PROGRAM SHOULD BE CAUSED BY SINGLE BIT FAILURES, OR BY HALF-WDRD FAILURES. THUS, DRDPPED OR ADDED BITS CAN BE REFERENCED DIRECTLY TO A CIRCUIT CARD. SWAP INDICATED CIRCUIT CARD TO SEE IF FAILURE CHANGES.

THE Q. U. A. AND F REGISTERS' CIRCUIT CARDS ARE LDCATED IN ROW 4 OF THE CARD GATE, AND ARE INTERCHANGEABLE.

THE I, B, AND M REGISTERS' CIRCUIT CARDS ARE LOCATED IN ROW 6 OR THE CARD GATE, AND ARE INTERCHANGEABLE.

FAILING BIT- 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

COLUMN----- B C D F H J K L

THE FOLLOWING CARDS CONTROL HALF-WDRD TRANSFERS AND ARE INTERCHANGEABLE.

M4, M5, M7, L5, AND L6.

## 6.1.2 PROGRAM DESCRIPTION

DATE

FC NO.

THE LD INSTRUCTION AT LOCATION FFFA PERFORMS THE FUNCTION OF SETTING THE ACCUMULATOR TO 0002 SO THAT WHEN THE FOLLOWING BSI I INSTRUCTION IS PERFORMED, A COMPLEMENT BIT PATTERN (FFFD) WILL BE SENT THROUGH THE ACCUMULATOR, THUS TESTING THAT THE ACCUMULATOR IS RETURNED TO 0002 AT THE FND OF THE BSI I INSTRUCTION. THIS TEST IS ACCOMPLISHED BY STORING THE CONTENTS OF THE ACCUMULATOR BACK INTO LOCATION 0001 AFTER THE BSI I INSTRUCTION. THE SAME PHILOS—PHY IS USED DURING THE BSI I INSTRUCTION AT LOCATION 00000 BY SETTING THE ACCUMULATOR TO FFFD WHILE 0002 IS SENT THROUGH IT DURING THE BSI I INSTRUCTION. A FAILURE OF EITHER BSI I INSTRUCTION THAT AFFECTS THE ACCUMULATOR WILL CAUSE THE FOLLOWING BSI I INSTRUCTION TO TAKE ITS ADDRESS FROM THE WRONG LOCATION. THIS LOCATION WILL PROBABLY BE ONE OF THE CORE LOCATIONS LOADED WITH 33FF, THUS CAUSING THE PROGRAM TO STOP.

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## 6.2 ADD TEST PROGRAM

THIS PROGRAM HELPS LOCATE AN ADD FAILURE THAT CANNOT BE LOCATED WHEN RUNNING CARD 04 OF ONE-CARD PROGRAMS IN SI MODE, BECAUSE OF THE DYNAMIC NATURE OF THE PROBLEM. IF THE CONTENTS OF SUMPL AND SUMMI DO NOT ADD TO 0000, THERE HAS BEEN A FAILURE IN ADDING 0001 TO SUMPL, OR A FAILURE IN ADDING FFFF TO SUMMI. TO DETERMINE WHICH OF THE TWO SUMS IS IN ERROR, IT MUST BE ASSUMED THAT ONE OF THEM IS CORRECT IN ORDER TO ARRIVE AT THE VALUE OF THE OTHER PRIDR TO THE FAILURE, IN OTHER WORDS, TO DETERMINE VALUE OF SUMMI IS CORRECT AND VICEVERSA. EXECUTE ADD TEST PROGRAM AS FOLLOWS,

- A OBTAIN VALUE OF SUMPL PRIOR TO FAILURE BY DETERMINING TWO'S COMPLEMENT OF (SUMMI FFFF).
- B. OBTAIN VALUE OF SUMMI PRIDE TO FAILURE BY DETERMINING TWO'S COMPLEMENT OF (SUMPL 0001).
- C. LOAD FOLLOWING PROGRAM BY MEANS DE CONSOLE ENTRY SWITCHES.

#### NOTE

ALL NUMBERS SHOWN BELOW ARE IN HEXADECIMAL NOTATION.

LOCATION	CONTENTS MNEMONIC	COMMENTS
0000	VALUE OF SUMP PRIOR TO ERROR	WILL BE IN ACCUMULATOR WHEN ADD OCCURS.
0001	0001	WILL BE ADDED TO ACCUMULATOR DURING ADD.
0002	CORRECT SUM OF ADDITION	USED TO CHECK ADD OPERATION.
0003	OOFC LD	LOAD ACCUMULATION FROM LDCATION 0000.
0004	80FC A	ADD CONTENTS OF LOCATION OOOI TO ACCUMULATOR.
0005	FOFC EOR	EOR ACCUMULATOR WITH CORRECT ANSWER.
0006	4820 BSC Z	SKIP ON ZERO TO LOCATION 0008.
0007	3000 WAIT	WAIT ON ERROR HAS OCCURRED.
0008	6003 LDX	BRANCH TO EDCATION 0003.

- D. LOAD INSTRUCTION ADDRESS REGISTER WITH 0003.
- RUN PROGRAM IN RUN MODE. ANY ADD FAILURE WILL CAUSE PROGRAM TO STOP AT WAIT INSTRUCTION WITH INSTRUCTION ADDRESS INDICATING 0008.
- F. IF PROGRAM RUNS CONTINUOUSLY WITHOUT ERRORS.
  - I. PRESS STOP PUSHBUTTON.
  - 2. LDAD LOCATION 0000 WITH VALUE OF SUMMI PRIOR TO FRROR.
  - 3. LOAD LOCATION 0001 WITH FFFF.
  - 4. LDAD LDCATION 0002 WITH CORRECT SUM DF SUMMI PLUS FFFF.
  - 5. RUN AGAIN IN RUN MODE.

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# ONE-CAPD DIAGNOSTIC PROGRAMS CARD 01

02BC		A8 S					000020
U/1C		ORG * TEST MOX AND	B 10 A	TRANCEER			000030
				ON PROG. LOAD.			000040 000050
0 0000	CO2F	LD	/0030	0.0 1 1000 2014			0000060
0001 0	3001	WAIT	/0001	SEE ACC IS	FOFO		000070
0002 0	C02E	LD	/0031				000080
0003 0	3001	WAIT	10001	SEE ACC IS	080F		000090
0004 0	703F	MDX	/0044	*****			000100
0005 0 0006 B	3351	WAIT	-15	**ERR., RESET			000110
0007 0	37F] 39F]	WAIT Wait	-15 -15	**FRR., RESET			000120
0008 0	30F1	WAIT	-15	**FRR., RESET			00 <b>013</b> 0 00 <b>0140</b>
0009 0	30F1	WAIT	-15	** FRR. , RESET			000150
000A 0	30F1	WAIT	-15	**FRR., RESFT			000160
0008 0	30F1	WAIT	-15	**FRR., RESET	THEN	\$1	000170
00000	30F1	WAIT	-15	**ERR., RESET			000180
00000	30 = 1	WAIT	-15	**ERR. RESET			000190
000F 0	30F1 30F1	WAIT	-15	**FRR., RESET			00200
0010 0	30F1	WAIT WAIT	-15 -15	**ERR., RESET			000210
0011 0	30F1	WAIT	-15	**ERR., RESET			000220 000230
0012 0	30F1	WATT	-15	**FRR., RESET			000240
0013 0	30=1	WAIT	-15	**ERR., RESFT			000250
0014 0	30F1	WAIT	-15	**FRR., RESET			000260
0015 0	30F1	WAIT	-15	**ERR., RESFT			000270
0016 0	30F1	WAIT	-15	**ERR., RESET			000280
0017 0	33F]	WAIT	-15	**ERR., RESET			000290
0018 0	30F1 30F1	WAIT WAIT	-15 -15	**ERR., RFSET **ERR., RFSFT			000300
001A 0	30F1	WAIT	-15	**ERR., RESET			000310 000320
001B 0	30F1	WAIT	-15	**ERR., RESET			000330
0010 0	30F1	WAIT	-15	**ERR., RESFT			000340
0010 0	30F1	WAIT	-15	**ERR., RESET	THEN	S1	000350
001F 0	30F1	WAIT	-15	**ERR., RESET			000360
001F 0	3) <sup>c</sup> l	WAIT	-15	**ERR., RESFT			000370
0020 0 0021 <b>0</b>	30F1 30F1	WAIT	-15	**ERR., RESET			000380
0022 0	30F1	WAlī Walī	-15 -15	**FRR., RESET **ERR., RESET			000390
0023 0	30F1	WAIT	-15	**ERR., RESET			000400 000410
0024 0	30F1	WAIT	-15	**FRR., RESET			000420
0025 0	40F1	WAIT	-15	**ERR., RESET		-	000430
0026 0	30F1	TIAM	-15	**ERR., RESET	THEN	\$1	000440
0027 0	30F1	WAIT	-15	**ERR., RESET			000450
0028 0 0029 0	30F1	WAIT	-15	**ERR., RESET			000460
0024 O	30F1 30F1	WAIT WAIT	-15 -15	**ERR., RESET			000470
0029 0	3051	TIAW	-15	**ERR., RESET **FRR., RESET			000480 000490
0020 0	30F1	WAIT	-15	**ERR., RESET			000500
0020 0	17F1	WAIT	-15	**ERR., RESET			000510
002F 0	30F]	WAIT	-15	**ERR., RESET	THEN	\$1	000520
0 <b>02</b> F 0	30F1	WAIT	-15	**ERR., RESET	THEN	SI .	000530
0030 0	FOFO	oc	/FOFO				000540
0031 0	090F 30F1	00	/080F	*****	71151		000550
0033 0	30FI -	WAIT	-15 -15	**ERR., RESET **FRR., RESET			000560
0034 0	30F1	WAIT	-15	**ERR., RESET			000570 000580
0035 0	30F1	WAIT	-15	**ERR., RESET			000590
0036 0	30F1	WAIT	-15	**ERR., RESET			000600
0037 0	30F1	WAIT	-15	**ERR., RESET			000610
0038 0	30F1	WAIT	-15	**ERR., RESET			.000620
0039 0	30F1	WAIT	-15	**ERR., RESET			000630
0 4500	30F1 30F1-	WAIT	-15	**ERR., RESET	THEN	51	000640
0038 0 003C 0	30F1	WAIT WAIT	-15 -15	**FRR., RESET **ERR., RESET			000650
0030 0	30F1	WAIT	-15	**ERR., RESET			000660
003E 0	7000	XCM	*	2			000680
003F 0	7000	MDX	/004D				000690
						•	-

0040	0	30F1	WAIT	-15	**ERR., RESET THEN SI	000700
0041	0	30F1	WAIT	-15	**ERR. RESET THEN SI	000710
0042	0	30F1	WAIT	-15	**ERR., RESET THEN SI	000720
0043	0	3 <b>0</b> F1	WAIT	-15	*#ERR. RESET THEN SI	000730
0044	0	70F9 .	MOX	/003E		000740
0045	0	30F1	WAIT	-15	**ERR., RESET THEN SI	000750
0046	ŋ	30F1	WAIT	-15	**ERR., RESET THEN SI	000760
0047	0	30 F ]	HAIT	-15	**ERR., RESET THEN SI	000770
0048	0	30F1	WAIT	-15	**FRR., RESET THEN SI	000789
0049	O	30F1	WAIT	-15	**ERR., RESET THEN ST	000790
004 A	0	30F1	WAIT	-15	**ERR., RESET THEN SI	000800
0 <b>04</b> B	0	30 F 1	WAIT	-15	**EPR., RESET THEN SI	000810
004C	0	30F1	MAIT	-15	**ERP., RESET THEN SI	000820
0040	0	3001	WAIT	/0001	STOP HERE INDICATES OK	000830
004 E	0	2000	DC	/2000	HEXIDECIMAL NUMBER O	000840
004F	O	1900	OC	/1000	HEXIDECIMAL NUMBER 1	000850
0050		0000	END	0		000860

18M MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

ONE-CARO DIAGNOSTIC PROGRAMS CARO OI

18M MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

PART NO. 2191260 PAGE 2

ONE-CARD DIAGNOSTIC PROGRAMS
CARO DI

CROSS REFERENCE LISTING

SYMBOL VALUE REFERENCES

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ONE-CARD DIAGNOSTIC PROGRAMS CARD 02

		ABS			000890
028C		ORG	/0000		000900
0200		* TEST ADD BY		INCREMENT I COUNTER	000910
0000 0	CO3E	LO LO	/003F	ADD /0001 TO ACC. AT EACH	000920
0 1000	803D			-	
0001 0		A	/003F	INST. FROM LOC. /0000	000930
	803C	A	/003F	TO LOC. /OOBE. TOTAL	000940
0003 0	803B	Ā	/003F	AT WAIT AT /003F SHOULD	000950
0004 0	803A	A	/003F	BE /003E.	000960
0005 0	8039	A	/003F	IF ANSWER WRONG	000970
0006 0	8038	A	/003F	I. DISPLAY LOCS. /003F	000980
0007 0	8037	A	/003F	/0040	000990
0 8000	8036	A	/003F	/0041	001000
0009 0	8035	A	/003F	/0000.	001010
000A 0	8034	A	/003F		001020
0 0008 0	8033	A	/003F	2. LOAD DK. CHECK THE	001030
0 0000 0	8032	Ā	/003F	FOLLOWING CAROS	001040
0000 0	8031	, <b>A</b>	/003F	BY SWAP + RE-RUN	001050
000E 0	8030	Ä	/003F	QUAD + IBM.	001060
000F 0	802F	Ä		OR SINGLE INSTRUCTION	
-			/003F	· • - · •	001070
0010 0	802E	• 🛕	/003F	FROM 70000 + SEE	001080
0011 0	802D	A	/003F	WHEN ACC. NOT EQU.	001090
0012 0	802C	A	/003F	I COUNTER.	001100
0013 0	802B	A	/003F		001110
0014 0	802A	A	/003F		001120
0015 0	8029	A	/003F		001130
0016 0	8028	A	/003F		001140
0017 0	8027	A	/003F	•	001150
0018 0	8026	A	/003F		001160
0019 0	8025	A	/003F		001170
001A 0	8024	A	/003F	•	001180
0018 0	8023	A	/003F		001190
0010 0	8022	A	/003F		001200
0010 0	8021	A	/003F		001210
001F 0	8020	A	/003F		001220
001F 0	801F	A	/003F		001230
0020 0	801E	A	/003F	•	001240
0021 0	8010	Ā	/003F		001250
0022 0	801C	Ā	/003F		001260
0023 0	801B	Ā	/003F		001270
0024 0	801A	Ä	/003F	•	001280
0025 0	8019	Ā	/003F		001290
0026 0	8018	Ä	/003F	•	001300
0027 0	8017	Ä	/003F		001310
	-		_		
0028 0	8016	A	/003F		001320
0029 0	8015	A	/003F		001330
002A 0	8014	A	/003F		001340
0028 0	8013	A	/003F		001350
005C 0	8012	A	/003F		001360
0020 0	8011	· A	/003F		001370
002E 0	8010	A	/003F		001380
002F 0	BOOF	A	/003F	•	001390
0030 0	800E	A	/003F		001400
0031 0	800D	ж. А.	/003F		001410
0032 0	800¢	. А	/003F		001420
0033 0	800B	A	/003F		001430
0034 0	800A	_ A	/003F	•	001440
0035 D	8009	A	/003F		001450
0036 0	8008	A	/003F		001460
0037 0	8007	A	/003F		0014.70
0038 0	8006	Α .	/003F		001480
0039 0	8005	Ā	/003F		001490
003A 0	8004	Ā	/003F		001500
0038 0	8003	Ā	/003F		001510
0030 0	8002	Ä	/003F		001520
		. A	/003F	*	001530
003D 0	8001	WAIT	/0002	SEE ACC. IS 003E	001540
003F 0	3002		/0002	CONSTANT ADDEO AT 0-30	001550
003F 0	0001	) DC		CONSTANT TO CHECK CRO READ	
0040 0	FBFF	oc	/F 8F F	CUNSTANT TO CHECK CHO REAU	001560

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ONE-CARD DIAGNOSTIC PROGRAMS

CARD 02

0041 000D BSS /D 001570 004E 0 2000 DC /2000 HEXIDECIMAL NUMBER 0 001580 004F 0 0800 DC /0800 HEXIDECIMAL NUMBER 2 001590 0050 0000 ENO 0 001600 ONE-CARD DIAGNOSTIC PROGRAMS
CARO 02

18M MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

CROSS REFERENCE LISTING

SYMBOL VALUE REFERENCES

DATE 01MAY66 EC NO. 415490B PROG ID 03A5-

DATE 01MAY66 EC NO. 4154908 PROG ID 03A5-1

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# ONE-CARO DIAGNOSTIC PROGRAMS CARO 03

OATE EC NO.

Q1MAY66

	ABS	001630
0280	ORG /0000	001640
	* CHECK BSC Z, SRA 1 , AND EOR.	001650
	* LOAO CARO AND RUN PROGRAM. PROGRAM SHOULO STOP	001660
	* AT WAITS FOLLOWED BY FOR SEEING THAT THE REGS.	001670 001680
	* SHOWN ARE CORRECT, DIFFERENCES INDICATE FRRORS.  * WAITS FOLLOWED BY ** OCCUR ONLY ON ERRORS.	001690
	* THE FIRST TEST IS OF SRA 1 AND BSC 2.	001700
	* 4 ONE 15 PLACED INTO THE BIT ZERO POSITION AND	001710
	* TESTED AT EACH TIME BY A BSC Z WHICH SHOULD NOT	001720
	* SKIP THE ACC. IS SHOWN AFTER EACH SRA 1.	001730
0000 0 0030	LO K8000 8000	001740
0001 0 4820	BSC Z SHOULD NOT SKIP	001750
0002 0 1801	SRA 1 4000	001760
0003 0 4820	BSC Z SHOULO NOT SKIP	001770
0004 0 1801	SRA 1 2000	001780 001790
0005 0 4820	BSC Z SHOULD NOT SKIP SRA 1 1000	001800
0006 0 1801 0007 0 4820	SRA 1 1000 BSC Z SHOULO NOT SKIP	001810
0008 0 1801	SRA 1 0800	001820
0009 0 4820	BSC Z SHOULD NOT SKIP	001830
000A 0 1801	SRA 1 0400	001840
0008 0 4820	BSC Z SHOULD NOT SKIP	001850
000C 0 1801	SRA 1 0200	001860
0000 0 4820	BSC Z SHOULO NOT SKIP	201870
000F 0 1801	SRA 1 0100	001880
000F 0 4820	BSC Z SHOULO NOT SKIP	001890
0010 0 1801	SRA 1 0080 BSC Z SHOULD NOT SKIP	001900 001910
0011 0 4820		001910
0012 0 1801 0013 0 4820	SRA 1 0040 BSC Z SHDULD NOT SKIP	001930
0014 0 1891	SRA 1 0020	001940
0015 0 4820	BSC Z SHOULO NOT SKIP	001950
0016 0 1801	SRA 1 0010	001960
0017 0 4820	BSC Z SHOULD NOT SKIP	001970
0018 0 1801	SRA 1 0008	001980
0019 0 4820	BSC Z SHOULD NOT SKIP	001990
001A 0 1801	SRA 1 0004	002000
0018 0 4820	BSC Z SHOULO NOT SKIP	002010 002020
0010 0 1801	SRA 1 0002 BSC Z SHOULO NOT SKIP	002020
0010 0 4820 001E 0 1801	SRA 1 0001	002040
001F 0 4820	BSC Z SHOULO NOT SKIP	002050
0020 0 3003	WAIT /0003 1 EQU. 0021 A EQU. 0001	002060
	* ERROR, RESET THEN SI, SEE EACH INST.	002070
	* DK PRESS START	002080
0021 0 1801	SRA I 0000	002090
0022 0 4820	BSC Z SHOULD SKIP	002100
0023 <b>0</b> 30F3	WAIT -13 **ERR. A SHOULD BE ZERO	002110
0024 0 3003	WAIT /0003 1 EQU. 0025 A EQU. 0000  # ERROR, RESET THEN SI, SEE EACH INST.	002120 002130
	* ERROR, RESET THEN ST, SEE EACH INST.  * OK PRESS START	002130
	*DK. SHOWS I CNTR. OK FROM 0000 TO /0025	002150
	* BSC Z SKIPS ONLY WHEN ACC = 0000	002160
	* SRA 1 OK FOR ONE BIT IN ANY POSITION	002170
	*BEGIN TEST OF TRANSFERS OF 8-D-A-M	002180
	* ANO A-U-A ANO A-B	002190
	* THE CONTENTS OF ACC. IS SHOWN AFTER EACH CHANGE	002200
0025 0 C018	LD KFOFO FOFO	002210
0026 0 0008	STO /FFFF	002220
0027 0 COD7	LO /FFFF	002230
0028 0 0007	FD \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	002240 002250
0029 0 C006 0024 0 18 <b>0</b> 4	SRA 4 . <b>0</b> F0F	002250
0028 0 0003	STO /FFFF	002270
0020 0 0003	LO /FFFF	002280
0020 0 0002	510 /0000	002290
002E 0 C001	LD /0000	002300

ONE-CARD	D1AGNOST1C	PROGRAMS
CARO C	23	

18M MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

002F 0	3003	WA1T	•	1 EQU. 0030 A		002310
				AD 1 CTR. /0025		002320
		*SEE THAT REG		N FOR EACH INST		002330
		*		AD CARDS GATE A		002340
		•	1 B			00235 <b>0</b>
				-5 6-7 8-9 10-1		002360
		* CARO COL		E F G H	J K	902370
			DK PR	ESS START		00 <b>2380</b>
		* TEST FOR				002390
0030 C	F000	EOR	KF <b>0</b> F 0	SET ACC TO F	FFF	002400
0031 0	0000	510	KFFFF	STORE IT		002410
0032 0	3003	WA1T		1 EQU. 0033 A		002420
0033 0	F00B	ĘΟR	KFFFF	CLEAR ACC TO	0000	002430
0034 0	4820	BSC	Z	SHOULD SKIP		002440
0035 0	30F3	WAIT	-13	* * FRR. ACC SHOU		002450
0036 0	F0 <b>09</b>	EOR	K0000	ACC SHOULD ST	AY 0000	0 <b>02460</b>
003/0	4820	BSC	2	SHOULD SKIP		002470
0038 0	3 <b>0</b> F3	WAIT	-13	* FERR. ACC SHOU		002480
0039 0	F004	EOR	KF0F0	ACC SHOULD GO		002490
003A 0	FOC4	EOR	/FFFF	ACC SHOULO B	E FFFF	002500
		•	LOC.	/FFFF SHOULD B	IE OFOF	002510
0038 0	3003	WAIT	/0003	1 EQU. 003C A	EQU. FFFF	002520
		* IF	ERROR PUT	IN SI MODE AND	START	00 25 30
003C 0	70F1	MD X	/002E			002540
				T ON THIS CARO		002550
				T SHOW ALL BITS		90 <i>2</i> 560
				-D-A-M AND A-U-		00 25 70
		* THAT FOR WO	RKS RIGHT.	THAT BSC Z WOR	RKS RIGHT.	002580
		* THAT ACC. W	ILL SHIFT	A DNE 81T RIGHT	FROM ANY	002590
				O, EOR, BSC Z,		<b>002600</b>
		* INSTRUCTION	IS OK. I CN	ITR. STEPS FROM	/0000 TO/003C	002610
0030 0	8000	K8000 OC	/8000			002620
003E 0	FOFO	KFOFO DC	/FOFO			002630
003F 0	FFFF	KFFFF OC	/FFFF			002640
0040 0	0000	K0000 OC	/0000			002650
0041	0000	BSS	<b>/</b> D			00266 <b>0</b>
004F 0	2000	OC.	/2000	HEXIOECIMAL NO	JMBER O	002670
004F 0	0040	OC	/0040	HEXIOECIMAL NO	JMBER 3	002680
0050	0000	END	0			002690

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ONE-CARD DIAGNOSTIC PROGRAMS CARD 03

CROSS REFERENCE LISTING

SYMBOL	VALUE	REFERENCES
KFFFF	003F	0031,0033
KF0F0	00 3E	0025,0030,0039
K00 <b>00</b>	0040	0036
K8000	0030	0000

C-CAKU	DIAGNOSTIC	PROGRAMS
CARC	04	

				ABS				002720
			* TES		NG F	FORMAT D	F LO A STÓ LOX EOR.	002728
			* THE					002729
			* TES	ADD	OF	POSITIV	E AND NEGATIVE ONES.	002730
			* A C	MPRE	HEN:	SIVE TES	T OF ADD IS PERFORMED ON	002740
			* EAC	+ PAS	<b>S</b> •	A PASS	TAKES ABOUT 4 SECONOS.	002750
			* VER	IFY C	ORRE	ECT LOOP	ING BY SINGLE INSTRUCTION.	002760
			* PRD	GRAM !	FOR	45 CONTI	NUOUS LOOP.	002770
							T + PROGRAM LOAD.	002780
028C				ORG		/0000		002790
0000		CO13		LD		K4000	MAKE LONG FORM INSTRUCTIONS	002791
0001		1804		SRA		4		002792
2000		0012		STO		K0400		002793
0003		F012		EOR		LD		002794
0004	_	0011		STO		LÐ	·	002795
0005		COOF		FO		K0400	•	002796
0006		F012		EOR		EOR		002797
	0	0011		STO		FOR		002798
8000		COOC		£0		K <b>040</b> 0		002799
9009		F011		FOR		STO		002800
A000		0010		STO		STO	•	002801
000A		C009		LD		K0400		002802
3000		F011		FDR		A.		002803
0000		0010		STO		A		007804
000E		C006 F001		LD		K0400:		002805
0010		0000		EOR		TDX		002806
		54000016	LOX	STO		FOX	DRANCH TO TEST LONG FORM	002807
0011		30F4	LUX	LDX WAIT	L	LD	BRANCH TO TEST LONG FORM.	002808
0014		4000	K4000			-12	**ERR. LOX FAILEO	002809
0015		0400	K0400			/4000 / <b>0</b> 400		002810
		C4000031	FD	LD.	L	KFOFO	BEGIN LONG FORM TEST	002812
0018		1804	£-7	SRA		4	OCCIN COMO FURM 1531	002813
		F4000031	EOR	EOR	L	KFOFO		007814 002815
-		D400002F	STO	STO	Ĺ	KFFFF		002816
0010		3004	3.0	WALT	•	/0004	SEE ACC. EQU. FFFF	002840
_		94000030	A	A	L	KOCO1	SEE MOCE EQUE I'VII	002841
0020		0000		STO	-	SUMPL	CLEAR SUM PLUS LOCATION	002860
0021		DOOB		STO		SUMMI	CLEAR SUM MINUS LOCATION	002870
0022	0	3004		WAIT		/0004	SEE ACC. EQU. 0000	002880
0023	0	C009	BEGIN	LO		SUMM1	LDAO SUM OF MINUS ONES	002890
0024	0 .	800A		A		KFFFF	AOO MINUS ONE TO IT	002900
0025	0	0007		STO		SUMMI	STORE SUM OF MINUS ONES	002910
0026	0	C007		LD		SUMPE:	LDAO SUM OF PLUS ONES	002920
0027	0	8008		A		KOGOI "	AOD PLUS ONE TO IT	002930
0028	0	D005		STO		SUMPL	STORE SUM OF PLUS ONES	002940
0029		8003		A		SUMM1	ADD SUMMI TO SUMPL	002950
002A		4820		BSC		Z	SHOULO ALWAYS SKIP	002960
0028		30F4		MAIT		-12	**ERR. ACC NOT ZERO	002970
0020	-	70F6		MOX		BEGIN		002980
0020		0000	SUMMI			/0000		002990
002E		0000	SUMPL			10000		003000
002F		0000	KFFFF			/0000		003010
0030		0001	K0001			/0001		003020
0031	0	FOFO	KFOFO			/FOFO		003030
0032	_	001C -		BSS		/1C		003040
004E		2000 .		00		/2000	HEXIDECIMAL NUMBER O	003050
004F	O	0020		DC .		/0020	HEXIDECIMAL NUMBER 4	003060
0050		0000		ENO		Ò		003070

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ONE-CARD DIAGNOSTIC PROGRAMS

01MAY66 4154908

OATE EC NO.

### CROSS REFERENCE LISTING

SYMBOL	VALUF	REFERENCES
A	001F	0000,0000
BEGIN	0023	002C
EUS	2019	0006,0007
KFFFF	00 2F	0018,0024
KEDEO	0031	0016,0019
K0001	0030	0016,0027
K0499	0015	0002,0005,0008,0008,0006
K4000	9014	0000
LD	9016	0073,0004,0011
LDX	3011	000F,0010
STO	0019	0009,000A
SUMM1	002P	0021,0023,0025,0029
SUMPL	002F	0020,0026,0028

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CARO OS

OATE 01MAY66 FC NO. 4154908

		003100
	A S S S S S S S S S S S S S S S S S S S	003110
028C	ORG O ** TEST THAT LOCS. GOSO THRU FEE CAN BE ADORESSED	003120
	* TEST THAT CHES. GOST THRO FF GAN BY A JOKE 3500 * PROGRAM SHOULD STOP AT LDC. DEFF WITH 8 300A	003130
	TOTAL CONTRACT CONTRACTOR CHOING CHOING	003140
	THE STATE OF SOME AND ACC. OF A SHIPLEY	003150
	TOTAL DE LOCALITATION TOTAL DE COLOR MA	003160
	* 15 THE NUMBER OF LUCATIONS IFSIED - PROGRAM  * CAN BE RE-RUN BY PRESSING START.	003170
	A DESCRIPTION OF THE PROPERTY	003180
0000 0 €022	MUDI FO KIOOO PHIIGHAM REPLACES INTS	<b>003190</b>
0001 0 1803	EOR STLN	003200
0002 0 F02F	STO STWT MAKE UP LONG INSTRUCTIONS	003210
0003 0 D00C	STQ STLN	003220
0004 0 0020 0005 0 0010	LD K1000	003230
0005 0 C010 0006 0 1802	SRA 2	003240
0007 0 F035	EOR CHCK	003250
0008 0 0034	STO CHCK	003260
0009 0 CO1A	LO KF000	003270
000A 0 1804	SRA 4	003280
0008 n F005	FOR STWT+1	003290
000C 0 P904	STO STWT+1	003300
0000 0 C018	LD CON1	003310
000F 0 00F1	STO MOOI MODIFY LOCATION 0000	003320
000F 0 C03B	LD KWA1T	003330
0010 00 040000FF	STHT STO L /OOFF PUT WAIT INTO FOFF	003340
0012 0 CO15	LD SUMC	003350 003360
0013 0 8000	MD03 A MD03+1 FORM CHECK SUM	003370
0014 0 D013	STO SUMC	003380
0015 0 COFD	LO MOD3	003390
0016 0 8004	A KC001	003390
0017 9 DQFB	STO M003	003410
0018 0 FOOF	EDR CDN3	003420
0019 0 4820	BSC Z	003430
0014 0 70F7	MOX MDD3-1	003440
0018 0 COC	LO SUMC BSC Z SHDULD SKIP	003450
0010 0 4820		003460
0010 0 30F.5	MAIT -11 **ERR. SUM SMUULU BE 3000 MOX RSTR	003470
001E 0 700B	DC 7000C USED TO MAKE CHECK SUM	003480
001F 0 000C	DC 1000C USED TO MAKE CHECK SUM	003481
0020 0 00BC	K0001 DC /0001	003490
0021 0 0001 0022 0 5000	KBG1N OC /5000	003500
	K1000 OC /1000	003510
0023 0 1000 0024 0 F000	KF000 0C- /F000	003520
0024 0 1000 0025 0 40FF	K9S1 BS1 X -1	003530
0026 0 703A	CON1 MDX X CHECK-MOD1-1	.003540
0027 0 803C	CON3 A X BGIN-MOD3	003550
0028 0 00FC	SUMC OC /OOFC	003560
0029 0 2030	SUML DC /2030	003570
0024 0 COF7	RSTR LD KBGIN LOAD ACC. TO 5000	003580 . 003590
0028 0 1808	SRA 8 SHIFT TO /0050	
onzc o 0005	STO STLN+1 RESTORE	003600
002D 0 D010	STO CHCK+1 RESTORE	003620
002E 0 1810	SRA 16' ACC = /0000	003630
002F 0 D0F9	STO SUMI RESTORE	003640
0030 0 COF4	LD KBS1 PUT BST-1 INTO CORE	003650
0031 00 04000050	STLN STO L /0050	003660
0033 0 COFF	LD SIEN+1	003670
0034 0 80EC		. 003680
0035 0 DOFC	STO STEN+1	003690
0036 0 FODA	EDR STWT+1 BSC Z SKIP WHEN LOC. OFFE STOREO	003700
0037 0 4820		003710
0038 0 70F7	MOX STLN-1 MOX /0050 RUN SERIES OF BS1-1 STORED	003720
0039 0 7016	WAIT -11 ** FRR. AODRESS PLUS ONE	003730
003A 0 30F5	* DOES NOT FOUND AORESS OF LOCATION TESTED.	003740
0030 0 6003	CHECK ID CHCK+1 LOAD THE ADDRESS BEING .	003750
0038 0 C002	A KOOOL TESTED AND ADD ONE.	003760
003C 0 80E4	*	

PROG 1U PAGE DC

FND

BGIN DC

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003940

003950

003960

#### 18M MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

PART NO. 2191260 PAGE

ONF-CAPD DIAGNOSTIC PROGRAMS CARD 05

004D 0 08FF

004E 0 2000

004F 0 0010

0000

0050

003770 0030 00 F4000050 CHCK FOR L /0050 COMPARE WITH CONTENTS. 003780 003F 0 4820 DSC SHOULD BE ZERO AND SKIP 0040 0 70F9 MOK CHECK-1 ERROR, STOP + SING. INST. 003790 003800 0041 0 CQE7 LD SUM FORM SUM OF = LDCS. TESTED 003810 0042 0 80DE K0001 0043 0 DOE5 STO SUML 003820 LD CHCK+1 MODIFY TO TEST NEXT LDC. 003830 0044 0 COF9 003840 0045 0 8008 KOOOI STO 003850 0046 0 DOF7 CHCK+1 0047 0 FQC9 FOR STWT+1 CHECK IF ALL TESTED 003860 BSC 003870 SKIP, ALL LOCS. TESTED 0048 0 4820 003880 MDX CHCK-2 GO CHECK NEXT LOCATION 0049 0 70F1 LDAO SUM OF NUMBER TESTEO. 0044 0 CODE LO SUML 003890 -- ACC. EQU. OFAF IS NUMBER KWAIT WAIT /0005 003900 0048 0 3005 003910 MDX RSTR 004C 0 70DD TESTED. USED TO MAKE CHECK SUM 003920

HEXIDECIMAL NUMBER O

HEXIDECIMAL NUMBER 5

/D8FF

/2000

/0010

. 0

ONE-CARD DIAGNOSTIC PROGRAMS CAPD 05

#### CROSS REFERENCE LISTING

SYMBOL	VALUE	REFERENCES
BGIN	004F	0027
CHCK	003D	0007,0008,0020,0038,0044,0046,0049
CHECK	003B	0026,0040
CDN1	0026	000D
CON3	0027	0018
KBGIN	0022	0024
KBSI	0025	0030
KF000	0024	0009
KWAIT	0048	000F
K0001	0021	0016,0034,003C,0042,0045
KIDOO	0023	0000,0005
MODI	0000	000E+0026
MOD3	0013	0013,0015,0017,0014,0027
RSTR	002A	001E +004C
STLN	0031	0002,0004,0020,0033,0035,0038
STWT	0010	0003,0008,0000,0036,0047
SUMC	0028	0012.0014.0018
SUML	0029	002F,0041,0043,004A

# THE-CAFD DIAGNOSTIC PROGRAMS CARD 06

			AD C			003000
028C .			ABS	- 0		003990
02.50		* 150	DRG	O CADER CARD	1 FUNCTIONS	004000
					FOR OSW + FOR COLUMN DATA	004010
		£ 141	C DDU	TO THENT	ICAL TO CARD 1 FROM 10 TO 4C	0040 <i>2</i> 0 004030
				OR XIO COMM		004040
0000 0	0.024	START		ROIN+I	SET UP IZO CONT. COMMANOS	004050
0001 0	1304	JIANI	SRA	4	SET UP 170 CONTA CUMPANOS	004060
0002 0	F024		FOR	ROSW+1		004070
0003 0	0021		510	RDIN+1		004070
0004 0	0022		STO	ROSW+1		004090
0005 0	0023		LD	SENSF+1	MAKE UP STORE LONG	004100
0006 0	1901		SRA	1	THRE OF STORE EDING	004110
0007 0	F0 34		EOR	STORE		004120
0008 0	0933		STO	STORE		004130
0 000	C014		LO	CHKSM	MAKE UP AODR. FOR STO LONG	004140
000A 0	1808		SRA	8		004150
0008 O	F031		<b>EOR</b>	STORE+1		004160
0000 0	0030		STO	STORE+1		004170
0000 0	701F		MDX	SRTRD		004180
000F 1	0000		OC	0		004190
000F 0	2000		OC	D		004200
001Q 0	<b>000</b> 0		<b>0</b> C	0		004210
0011 0	0000		DC	0		004220
0012 0	0000		OC	0	•	004230
0013 0	0000		OC	0		004240
0014 0	0000		OC	0		004250
0015 0	0000		oc	0		004260
0016 0	0000		<b>0</b> C	0		004270
0017 0	0000		DC			004280
0018 0	2200		DC			004290
0019 0	0000		oc			004300
001A 0	3000		OC			004310
001R 0	0000		OC			004320
0010 0	2000		0C	0		004330
0 6100	700F	ENOCK		SRTRO		004340
001F 0	0.068	CHKSM		/B800		004350
0020 0	0800 8003	K0800		/0800		004360
0070 1	8000	K8003		/8003 /8000		004370
0022 0	1000	K0001		/0001		004380
0023 0	2000	KOOOI	DC	/0000		004390
0024 0	0000	RDIN	DC	/0000	RD SWS. INTO LOCS. D OR 1	0044 00 0044 10
0025 0	4000		DC	/A000	/3AOO SET BY PROGRAM	004420
0026 0	8500	ROS₩	DC	SENSF	RD SWS. INTO LOC. SENSE	004430
0027 0	3000	1.030	DC	/3000	/3AOO SET BY PROGRAM	004440
0028 2	0004	SENSE		/0004	SENSE DSW CONTROL COMMAND	004450
0029 0	2808		OC	/2808	The state of the s	004460
002A 0	2000	COUNT	DC.	/0000	•	004470
0028 0	FOF3	ERROR		K0800	RESTORE ACC. TO OSW	004480
002C 0	30F6		WAIT	-10	**ERR. STOP DSW NOT RIGHT	004490
0 0 2 0 0	3006	SRTRD		16	TO LOOP, REPLACE WALT	004500
0 3\$0C	0,8F7		XIO	RDSW	READ SWITCHES INTO SENSE	004510
002F 0	COFE		LD	SENSE	LOAD BIT SWS. INTO ACC.	004520
0030 0	FOFF		FOR	K8003	CHECK BITS 0,14+15 ONLY	004530
0031 0	4920		BSC	. 2	SKIP IF BITS D.14+15 ONLY	004540
0032 0	700F		MDX	CONT1	CONTINUE OSW ANALYSIS	004550
0033 0	98F0		XIO	ROIN	READ BIT SWITCHES INTO 0,1	.004560
0034 0	COEF		L'D	RDIN	. •	004570
0035 0	FOEC		EOR-	K0001	SHITCH READ IN AREA, EVEN	004580
0036 0	DOED		STO	RDIN	TIMES IN O DOD IN 1	004590
0037 0	4820		BSC	2	SKIP 2 WORDS READ	004600
0038 0	70F4		MOX	SRTRD	057 51067	004610
0039 0	6303		LD.	START	GET FIRST WORD	004620
003A 0	IAOA		SRA	8	SHIFT IT	004630
0038 0	F005	CTOPE	EDR	START+1	EQR WITH SECONO WORD	004640
0030 0	CD04 00F5	STORE		/C 004	STORE LONG AT 40	004650
003D 0	0057		DC	/00F5	SET UP BY PROG.	004660

OATE OIMAY66 EC NO. 415490B

PPOG IO 03A5-1

# ONE-CARD DIAGNOSTIC PROGRAMS

IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

003F 0	COFF	FD	STORE+1		004670
003F 7	80 F 3	A	K0001+1	DUMMY MODIFY OF STO L	004680
<b>004</b> 0 0	DOFC	510	STORE+1		004690
0041 0	70EP	MDX	SRTRD		004700
0042 0	FODE CONT	1 EOR	K8000	CHECK FOR BITS 14+15 ONLY	004710
D043 0	4820	BSC	Z	SKIP BUSY AND NOT READY	004720
0044 0	7001	MDX	CONT2		004730
0045 0	70£7	MDX	SRTRD		004740
D046 0	COFI CONT	2 LD	SENSE	BIT SWS. LOADED TO ACC.	004750
0047 0	FOD7	EDR	K0800	CHECK FOR BIT 4 ONLY	004760
0048 0	4820	BSC	2	SKIP END OF CARO	004770
0049 0	70E1	MOX	EPROR	3.1.1 5/13 57 54110	004780
004A 0	CODF	LD	COUNT	COUNT PASSES	004790
0048 0	8006	A	K0001		004800
004C 0	7050	MDX	SRTRD		004810
004D 0	9000	DC	0		004820
004E 0	2000	OC	/2000	HEXIDECIMAL NUMBER O	004830
004F 0	0008	CC	/0008	HEXIDECIMAL NUMBER 6	004840
			•	MENTOCCIUME MOMBER 9	
0050	0000	END	0	REVIDECTURE NOMBER 2	004850

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ONE-CARD GIAGNOSTIC PROGRAMS CARD 06

### CROSS REFERENCE LISTING

SAMBOF	VALUE	REFERENCES
CHKSM	001E	0009
CONTI	0042	0032
CONT2	0046	0044
COUNT	002A	004A
ENDCK	0010	
ERROR	0028	0049
KONDI	0022	0035,003F,004B
KOROO	001F	0028.0047
K8000	0021	0042
K8003	0020	0030
RDIN	0024	0000,0003,0033,0034,0036
RDSh	0026	0002,0004,002E
SENSE	2028	0005,0026,002F,0046
SRTRD	002D	000D,001D,0038,004I,0045,004C
START	0000	0039,0038
STORE	003C	0007,0008,000B,000C,003E,0040

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PROG 10 03A5-1 PAGE 9 IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

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ONE-CARD DIAGNOSTIC PROGRAMS
CARO 07

						•	
0280				ABS	. "		004880
0200			* TES	ORG	0	•	004890
			* DDC	31 0000615	PRECISIO	N LOAD AND AND AND	004891
			* YII	JOKAT FUK 1 EUNOTIO	SCOPE EDI	DPS ON READ CARD	004900
			* DN	ERROR.	NS AFE ID	ENTICAL TO CARDI BUT NO STOP	004910
0000	٥	C017	J.,	LD	KFOFO	SET UP CONSTANT /OFOF	004920
1000		1804		SRA	4	SET OF CONSTANT FORCE	004921
0002		D016		STO	KEOFO+I		0049 <i>27</i> 004923
0003		D016		STO	KFOFO+2		004924
0004		C813		F <b>D</b> D	KFOFO	TEST LOAD DOUBLE	004925
0 0 0 5		8414		AD	KF0F0+2	TEST ADD COUBLE	004926
0 006	U	3007		WAIT	/0007	SEE ACC. FFFF Q FFFF 1F OK	004927
0007	n	COID	* Start		0034	CONT. IF NOT RESET AND SI.	004928
0008		1802	31441	SRA	RO1N+1 2	CORRECT 1/O CONT. COMM.	004930
0009		D018		STE	RD1N+I	SHIFT 1T STORE IT	004940
000A	0	CO18		LD	K0001+1	CORRECT 1/0 CONT. COMM.	004950
9000		1801		SRA	1	SHIFT IT	004960
000C		0016		STØ	K0001+1	STORE IT	004970 004980
0000		COIB		LD	SENSE+1	CORRECT 1/O CONT. COMM.	004990
3000		1803		SR A	3	SHIFT IT	005000
000F 0010		D019		STO	SENSE+I	STORE IT	005010
1100		F016 D015		FDR	RESET+I		005020
0012		700A		STO	RESET+1		<b>0</b> 0 50 <b>3</b> 0
0013	_	0000		M <b>D</b> X CC	ENOCK O		005040
0014		0000		oc oc	0		005060
0015	0	0000		oc	ŏ		005070
0016	0	0000		OC	ŏ		005080
0017		0000		oc	Ö		005090 005100
0018		FOFO	KFOFO	DC	/FOFO		005110
0019		<b>O</b> FOF		oc	/OFOF		005120
AIOO		QFOF		oc.	/OFOF	PUT IN BY PROGRAM	005200
001B		FOFO		o <b>C</b>	/FOFO		005210
0010		70 <b>0</b> F	ENOCH	OC .	0		005215
001F		0800	ENOCK KO800		SRTRO		005220
001F		8003	K8003		/0800 /8003		005230
0020	0	<b>80</b> 00	K8000		/8000		005240
0021		0000		DC	0		005250 005260
0022		0001	K0001	DC	/0001	START RO. USED AS CONSTANT	005270
0023 (		2808		OC	/2808	/I404 SET BY PROG.	005280
0024 (		0000	ROIN		/0000	READ IN LOCATIONS O AND I	005290
0025 (		4800	05555	OC .	/4800	/1200 SET BY PROG.	005300
0027		0000 <b>00</b> 03	RESET		0	RESET DSW CONTROL COMMANO	005310
0028	_	<b>0</b> 004	SENSE		/0003	/1703 SET BY PROG.	005320
0029		8800	311136		/00(f4 /8800	SENSE OSW CONTROL COMMANO	005330
002A		0000			0	/1700 SET BY PROG.	005340
0028:0		FOF2	ERROR		K0800	RESTORE ACC. TO OSW	005350
0020		7000		MDX	*	PUT WAIT HERE FOR ERR. STOP	005360
0020		08F4	SRTRO	XIO	K0001	START READ	005380
002E 0		08F7			RESET	RESET OSW	005390
002F 0		08F8			SENSE	SENSE OSW FOR CRP	005400
0030 0		F0EE		·	K8003	CHECK BITS 0.14+15 ONLY	005410
0032 0		4820 7 <b>0</b> 0f			Z COUT 1	SKIP IF BITS 0.14+15 ONLY	005420
0033 0		790F 09F0			CONT1	RD COL.	005430
0034 0		COEF			ROIN ROIN		005440
0.035 0		FOEC			K0001	•	005450
0036 0		0960			ROIN		005460
0037 0	) 4	4820			Z	SKIP, 000 COL. JUST READ	005470 00 <b>548</b> 0
0038 0		7002			HOP	TOTAL SOLE GOOT READ	005490
0039 0		OC 7			/0001	LGAO DOO COL. JUST READ	005500
003A 0		7006			JUMP		005510
0038 0		1004	HDP		<b>/</b> 0 <b>0</b> 00	LOAD EVEN COL. JUST READ	005520
003C 0		7004		MOX ,	JUMP		005530

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6.	APPENI	DIX
	6•1	PUNCHED-CARD 8-B FORMAT
1.	PUR PO	SE
	INC L	AD PROGRAM DECKS PUNCHED IN THE FORMAT SUCH AS THE CPU AND CORE TESTS.  DADER IS CONSTRUCTED TO USE A MINIMAL INSTRUCTION SET, AND PROVIDE  DIAGNOSTIC ABILITY.
2.	PRERE	QUISITES
	2.1	PROGRAM PREREQUISITES
		THE BASIC LOADER WILL ONLY LOAD PROGRAM DECKS WHICH ARE PUNCHED IN THE B-B FORMAT DESCRIBED IN SECTION $6 \cdot 1 \cdot$
	2.2	EQUIPMENT PREREQUISITES
		A. 1131 CENTRAL PROCESSING UNIT (CPU). B. 2501 CARD READER WITH IPL.

IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM BASIC DIAGNOSTIC LOADER - 25D1

#### USE PROCEDURE

- 3.1 NORMAL LOADING PROCEDURE
  - A. AT 25D1 CARD READER.
    - 1. DEPRESS NPRO PUSHBUTTON TO CLEAR FEED.
    - 2. PLACE BASIC LOADER DECK, FOLLOWED BY MAIN PROGRAM AND TWO BLANK CARDS IN HOPPER.
    - 3. DEPRESS START PUSHBUTTON. READY INDICATOR SHOULD LIGHT.
  - B. AT 1131 CPU.
    - 1. PUSH RESET.
    - 2. PUSH PROGRAM LOAD. MAIN PROGRAM SHOULD LOAD AND BEGIN EXECUTION.
    - 3. IF PROGRAM FAILS TO LOAD OR HALTS AT A WAIT INSTRUCTION BELOW LOCATION DIZC, REFER TO SECTION 3.2
- DIAGNOSTIC LOADING PROCEDURE
  - 1. SET INTERRUPT DELAY SWITCH (ON CE PANEL) TO ON POSITION.
  - RETRY LOADING PROCEDURE.

IF PROGRAM LOADS, RUN CPU AND INTERRUPT TESTS TO DIAGNOSE NORMAL LOADER FAILURE.

IF PROGRAM DOES NOT LOAD, REFER TO SECTION 3.3

DIAGNOSTIC GUIDE

NOTE

ALL REGISTER-CONTENT INDICATIONS IN FOLLOWING STEPS ARE EXPRESSED IN HEXADECIMAL NOTATION.

FAILURE DESCRIPTION SUGGESTED ACTION + POSSIBLE CAUSE OF FAILURE

- 1. NO CARD FEEDS POSSIBLE FAILURE OF EITHER PROGRAM-LOAD MODE OR READER.
- 2. FIRST CARD FEEDS BUT IS NOT POSSIBLE FAILURE OF READER. READ CORRECTLY.
- 3. FIRST CARD IS READ CORRECTLY POSSIBLE FAILURE OF CPU INSTRUCTIONS BUT NOT ABLE TO USED TO BOOTSTRAP LOADER. LOAD REMAINDER OF LOADER.
- MAIN PROGRAM CHECK THAT LAST CARD OF PROGRAM, WHICH IS STARTS EXECUTING PUNCHED WITH FF IN COLUMNS 79 AND 80, 4. MAIN PROGRAM BEFORE ALL CARDS IS NOT OUT OF SEQUENCE. IF CARD IS IN SEQUENCE, HAVE BEEN LOADED. A READING PROBLEM IS INDICATED.
- 5. ALL CARDS FEED SEE IF LAST CARD WENT PAST THE READ STATION BUT MAIN PROGRAM OF THE 1442. IF IT DID, RUN ONE-CARD DID NOT EXECUTE. DIAGNOSTIC PROGRAMS. CHECK THAT MAIN PROGRAM IS FOLLOWED BY TWO BLANK CARDS.

420317

#### 3.4\*\*\* PROGRAM HALTS

•HALT NO. •(B REG).	DESCRIPTION	RESTART ACTION
30F1 30F5 30F7 30F8	CHECK SUM ERROR ON FIRST CARD OF LOADER. EITHER THE CARD READ IN WRONG, OR THE VARIOUS WORDS WHICH ARE STORED BY THE FIRST CARD WERE NOT PROPERLY GENERATED.  READER CHECK WHEN LOADING TEST PROGRAM  CHECK SUM WHEN LOADING PROGRAM. CARD COLUMN 1-7B DID NOT HAVE ZERO CHECK SUM. READER NOT READY BEFORE LOADING WAS COMPLETED.  MOVE ERROR. MOVED DATA DID NOT COMPARE TO INPUT DATA.	NPRO THEN PLACE CARDS RUN OUT IN FRONT OF REMAINING DECK AND PRESS START.  RELOAD OR PRESS START TO RETRY THE SAME CARO.

<sup>4.</sup> PRINTOUTS (NONE)

THE 2501 BASIC LOADER IS DESIGNED TO SUCCESSFULLY LOAD THE 8-8 FOR-MAT TESTS SUCH AS CPU AND CORE TESTS. THE LOADER USES A MINIMUM AMOUNT OF CIRCUITS. IT WILL RUN WITH OR WITHOUT INTERRUPT, USES NO INDEX REGISTERS, AND WILL LOOP ON EASILY SCOPED LOOPS FOR SOME ERRORS. THE CARD IMAGE IS PRESERVED IN CORE UNTIL IT HAS BEEN CHECK SUMMED, AND MOVED TO ITS PROPER LOCATIONS. THE CARD MAY BE DISPLAYED AND COMPARED MANUALLY TO VERIFY PROPER READING. EACH OPERATION, IE. CARO READ, CHECKSUM, MOVE AND CHECK ARE SELF CONTAINED AND DO NOT OVERLAP, ALLOWING A FAILING OPERATION TO BE REPEATED.

- 5.1 BASIC-LOADER FIRST-CARD FUNCTIONS
- 5.1.1 AFTER BEING LOADED IN IPL MODE, THE FIRST-CARD PROGRAM DEVELOPS A CHECKSUM TO DETERMINE IF IT WAS LOADED CORRECTLY. IF THE CHECKSUM IS NOT 0000, THE PROGRAM STOPS AT A WAIT WITH THE DEVELOPED CHECKSUM DISPLAYED BY THE ACCUMULATOR.
- 5.1.2 IF THE CHECKSUM IS CORRECT, THE FIRST-CARD PROGRAM PROCEEDS TO LOAD CARDS TWO THROUGH FIVE. TWO CARD COLUMNS WILL FORM ONE STORAGE WORD BECAUSE THESE CARDS ARE PUNCHEO IN 8-8 MODE. THE DSW IS CHECKED, AND IF AN ERROR IS DETECTED, THE PROGRAM WILL STOP AT A WAIT WITH THE ERROR DSW DISPLAYED BY THE ACCUMULATOR. THE CONDITION CAUSING THE DSW ERROR MUST BE CORRECTED BEFORE ATTEMPTING TO RELOAD.

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5.1.3 AFTER LOADING CARDS TWO THROUGH FIVE, THE PROGRAM BRANCHES TO BEGINNING OF PROGRAM JUST LOADED.

5.2 FUNCTIONS OF BASIC-LOADER CARDS TWO THROUGH FIVE

IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

BASIC DIAGNOSTIC LOADER - 2501

- 5.2.1 CARDS TWO THROUGH FIVE LOAD A MAIN-PROGRAM CARD INTO LOCATIONS 0010 TO 0036. THE DSW IS CHECKED AFTER READING A CARD, AND IF AN ERROR OCCURRED, THE PROGRAM STOPS AT A WAIT WITH THE DSW ERROR DISPLAYED BY THE ACCUMULATOR.
- 5.2.2 CARDS TWO THROUGH FIVE ALSO DEVELOP CHECKSUM OF LOCATIONS 0010 THROUGH 0036. IF CHECKSUM IS OTHER THAN 0000, PROGRAM STOPS AT ERROR WAIT WITH CHECKSUM DISPLAYED BY ACCUMULATOR. A CORRECT CHECKSUM MEANS CARD WAS READ CORRECTLY.
- 5.2.3 THE WORD COUNT, (NUMBER OF WORDS ON THE CARD) IS TAKEN FROM LOCATION 0034. IF IT IS ZERO PROGRAM STOPS AT ERROR-WAIT.
- 5.2.4 THE NUMBER OF WORDS SPECIFIED IN LOCATION 0034 IS RELOCATED, STARTING AT THE ADDRESS THAT WAS SPECIFIED IN CARD COLUMNS 75 AND 76 AND THAT WAS READ INTO LOCATION 0035.
- 5.2.5 THE DATA READ AND THE DATA AT THE TRANSFERED LOCATION ARE COMPARED WORD BY WORD TO VERIFY THAT THE RELOCATION HAS BEEN DONE CORRECTLY.

  AN UNEQUAL COMPARISON RESULTS IN THE PROGRAM STOPPING AT AN ENOV-WAIT INDICATING AN RELOCATION ERROR.
- 5.2.6 THE PROGRAM REPEATS THE STEPS DISCUSSED IN PARAGRAPHS 5.2.1 THROUGH 5.2.5 FOR EACH CARD OF THE MAIN PROGRAM DECK, EXCEPT FOR THE LAST CARD, WHICH MUST HAVE A LOCATION ADDRESS OF 0000. AFTER READING THE CARD AND DEVELOPING THE CHECKSUM, THE PROGRAM BRANCHES TO LOCATION 0010 AND STARTS EXECUTING THE MAIN LINE PROGRAM.

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<sup>5.</sup> COMMENTS

IBM MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM BASIC DIAGNOSTIC LOADER - 2501

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### 6. APPENDIX

6-1 PUNCHED CARD 8-8 FORMAT

THE ORGANIZATION OF THE PUNCHED CARD 8-8 FORMAT IS AS FOLLOWS.

- A. COLUMNS 1 THROUGH 72 CONTAIN HALF WORDS (8 BITS) PUNCHED INTO ROWS 12 THROUGH 5. WORD-BITS 0 THROUGH 7 ARE PUNCHED INTO EVEN NUMBERED COLUMNS. WORD-BITS 8 THROUGH 15 ARE PUNCHED INTO ODD NUMBERED COLUMNS.
- B. COLUMNS 73 AND 74 CONTAIN A WORD-COUNT OF THE TOTAL NUMBER OF DATA WORDS PUNCHED INTO THE CARD.
- C. COLUMNS 75 AND 76 CONTAIN THE LOCATION, IN CORE WHERE THE DATA ON THE CARD ARE TO BE LOADED.
- D. COLUMNS 77 AND 78 CONTAIN A CHECKSUN (TWO'S COMPLEMENT OF THE SUM OF ALL WORDS IN COLUMNS 1 THROUGH 76).
- E. COLUMNS 79 AND 80 CONTAIN THE CARD'S SEQUENCE NUMBER PUNCHED IN HOLLERITH/HEXADECIMAL FORMAT.

------ LAST PAGE -----

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0000	A8S ORG	O 800TSTRA	P CARD #1	3AD00020 3AD00030 3AD00040
	* * *		Y IPL. THESE INSTRUCTIONS NG FORM INSTRUCTIONS Y TO LOAD THE REST OF	3AD00050 3AD00060 3AD00070
	*	THE LOAD		3AD00080 3AD00090 3AD00100
0000 0 C037 0001 0 1801 0002 0 F034	START LD SRA	PACK&1 1	8800 4400	3AD00110 3AD00120
0002 0 F034 0003 0 D033 0004 0 F037	EOR STO EOR	PACK PACK STO	C400 C400 LD L D400	3AD00130 3AD00140 3AD00150
0005 0 D036 0006 0 F033	STO EOR	STO EOR	D400 STO L F400	3AD00160 3AD00170
0007 0 0032 0008 0 1804 0009 0 F021	STO SRA EOR	EOR 4 K4001	F400 EOR L OF40 4F41	3A000180 3A000190
000A 0 D022 0008 0 7001	STO MDX	RESET *&1	4F41 RESET IOCC 4F41	3A000200 3A000210 3A000220
000C 0 0031 000D 0 1808 000E 0 D018	OC SRA STO	INT 8	004F	3AD00230 3AD00240
000F 0 8020 0010 0 002A	A STO	STRD ONE EOR&1	004F START DR ADDRS 0050 0050 1ST HALF WD ADDRS	3AD00250 3AD00260 3AD00270
0011 0 D028 0012 0 801D 0013 0 0024	STO A	STO&1 ONE	0050 1ST STORE ADDRS 0051	3AD00280 3A000290
0014 0 8017 0015 0 D016	STO A STO	PACK&1 LAST LAST	0051 2ND HALF WD ADDRS 0078 0078 END STORE ADDRS	3AD00300 3AD00310 3AD00320
0016 0 C014 0017 0 1806	LO SRA	K4001 6	4001 010D	3A000330 3A000340
0018 0 F014 0019 0 D011 001A 0 1808	EOR STO SRA	RESET STRD&1 8	4E01 4E01 START RO I/CC 004E	3AD00350 3AD00360 3AD00370
0018 0 D033 001C 0 C011	STO *	MC	OO4E WORD COUNT	3AD00380 3AD00390
001D 0 8006 001E 0 D00F	STRT LD A STO	CHKSM *&6 CHKSM	FORM CHECK SUM, THIS CARD FROM 0024 THRU 004F	3AD00400 3AD00410 3AOD0420
001F 0 COFD 0020 0 800F 0021 0 DOF8	LD A STO	STRT&1 ONE	MODIFY ADD INST	3AD00430 3AD00440
0022 0 F00C 0023 0 4820	EOR BSC	STRT&1 CON1 Z	CHECK THAT LAST LOC CHKD SKIP IF FINISHEO	3AD00450 3AD00460 3AD00470
0024 0 601C 0025 0 C008 0026 0 4820	LDX LD	STRT CHKSM	GO GET NEXT WORD GET SUM OF 0024 THRU 004F	3A000480 3A000490
0027 0 30F1 0028 0 6033	8SC WAIT ENOCK LDX	Z -15 SRTRD	SKIP IF CHKSM ZERO CHECK SUM ERROR START LOADING	3AD00500 3AD00510 3AD00520
0029 0 0800	* *	10900		3AD00530 3A000540
0024 0 0000 0028 0 4001	KO800 DC STRD DC K4001 DC	/0800 0 /4001		3AD00550 3AD00560 3AD00570
002C 0 0026 002D 0 0000 002E 0 001B	LAST DC RESET OC	/0026 *-*		3AD00580 3AD00590
002F 0 8031 0030 0 0001	CHKSM DC CON1 A ONE DC *	/001B X 80-STRT-: /0001	3	3AD00600 3AD00610 3AD00620
	*		STRUCTIONS LOAD THE REST	3AD00630 3AD00640 3AD00650
	*	0F THE L		3AD00660 3AD00670
0031 0 0000	INT DC	0		3AD00680 3AD00690

0032 0 6037	LDX	PACK	3AD007
	*		3AD007
003 <b>3 0 08F6</b>	SRTRD XIO	STRD	3AD007
0034 0 08F7	01X	RESET-1	3 AD00
0035 0 4804	8SC	E	3AD007
0036 0 6034	LDX	SRTRD&1	3AD007
	*		3AD007
0037 0 8000	PACK DC	/8000 LD L RDIN&1	
0038 0 8800	DC	/8800	3AD001
0039 0 1808	SRA	8	3AD007
003A 0 2000	EOR DC		3AD007
003B 0 0000			3AD008
003C 0 1000	DC	0	3 <b>AD00</b> 8
	STO DC	/1000 STO L RDIN	3 <b>ADO</b> 08
003D 0 0000	DC	0	3 <b>AD</b> 008
003E 0 COF9	LD	PACK&1	3AD008
003F 0 80F0	A	ONE	3AD008
0040 0 DOFA	STO	EOR&1	3AD008
0041 0 80EE	A	ONE	3AD008
0042 0 DOF5	STO	PACK&1 PACK AND	3AD008
0043 0 COF9	LD	STOE1 STORE 8-8	3AD008
0044 0 80EB	Ā	ONE LOADER CARDS	3 <b>AD</b> 000
0045 0 DOF7	STO	STO&1	
0046 0 F0E5	EOR	LAST	3 AD 0 0
0047 0 4820	8SC	Z	3AD009
0048 0 6037			3AD009
	LDX	PACK	3 <b>AD00</b> 9
0049 0 7006	ENO1 MDX	CARD2	3AD009
004A	ORG	79	3 <b>ADO</b> 09
004F 0 004E	WC DC	78	3AD <b>0</b> 09
	*		3 <b>AD00</b> 9
	*		3AD009
	*	CARD 2 STARTS HERE	3AD010
	*		3AD010
	*		3AD010
0050 0000	RDIN BSS	0	3AD010
0050 0 COFE	CARO2 LD	wc	
0051 0 D400 0090		L WC&78	3AD010
0053 0 COD6	LD	STRD	3AD010
0054 0 80FA	A	WC	3AD010
0055 0 D004	ŜTO	STRD	3AD010
0056 0 COFB			3AD010
0057 0 80F7	LD	STOWC&1	3AD010
	A	WC	3AD011
0058 0 DOF9	STO	STOWC&1	3AD011
0059 0 COF5	LD	WC	3AD011
005A 0 1801	SRA	1	3AD011
005B 0 80DO	A	LAST	3AD011
005C 0 DOCF	ST0	LAST	3AD011
0050 0 C006	LD	COUNT	3AD011
005E 0 80D1	Ā	ONE	3AD011
005F 0 D004	STO	COUNT	
0060 0 F004	EOR	K0004	3AD011
0061 0 4820	BSC		3AD011
		7	3AD012
0062 0 70D0	MDX	SRTRD	3AD012
0063 0 6078	LDX	SRTR2	3AD012
	*		3 <b>ADO</b> 12
	*		3AD012
	*	CONSTANTS AND BUCKETS	3AD012
	*		3 <b>AD012</b>
	*		
0064 0 0000	* * COUNT DC	0	3AD012
	COUNT DC	0	3AD012 3AD012
0064 0 0000 0065 0 0004	COUNT DC KOOO4 DC		3AD012 3AD012 3AD012
0065 0 0004	COUNT DC KOOO4 DC *	0 /0004	3AD012 3AD012 3AD012 3AD013
0065 0 0004 0010	COUNT DC KOOO4 DC * INPUT EQU	0 /0004 /0010 CARD INPUT AREA	3AD012 3AD012 3AD012 3AD013 3AD013
0065 0 0004 0010 0058	COUNT DC KOOO4 DC * INPUT EQU INWC EQU	O /0004 /0010 CARD INPUT AREA INPUT&72 WORD COUNT IN CAR	3AD012 3AD012 3AD012 3AD013 3AD013
0065 0 0004 0010 0058 0059	COUNT DC KOOO4 DC * INPUT EQU INWC EQU INWC1 EQU	O /0004 /0010 CARD INPUT AREA INPUT&72 WORD COUNT IN CAR INWC&1	3AD012 3AD012 3AD012 3AD013 3AD013
0065 0 0004 0010 0058 0059 005A	COUNT DC KOOO4 DC * INPUT EQU INWC EQU INWC1 EQU INWC1 EQU INAD EQU	O /OOO4  /OO1O CARD INPUT AREA INPUT&72 WORD COUNT IN CAR INWC&1 INPUT&74 ADDRESS IN CARD	3AD012 3AD012 3AD012 3AD013 3AD013
0065 0 0004 0010 0058 0059 005A 0058	COUNT DC KOOO4 DC * INPUT EQU INWC EQU INWC1 EQU INAD EQU INAD1 EQU	O /OOO4  /OO1O CARD INPUT AREA INPUT&72 WORD COUNT IN CARI INWC&1 INPUT&74 ADDRESS IN CARD INAD&1	3AD012 3AD012 3AD012 3AD013 3AD013 0 3AD013
0065 0 0004 0010 0058 0059 005A	COUNT DC KOOO4 DC * INPUT EQU INWC EQU INWC1 EQU INWC1 EQU INAD EQU	O /OOO4  /OO1O CARD INPUT AREA INPUT&72 WORD COUNT IN CAR INWC&1 INPUT&74 ADDRESS IN CARD	3AD012 3AD012 3AD012 3AD013 3AD013 3AD013 3AD013

ASIC DIAGNOSTIC LOADER - 2501

0068	0	0000	CKSUM	DC	0		3AD01380
		4F01	REST2		/4F01		3AD01390
		0000	CDCNT		0		3AD01400
			IPACK	DC.	INPUT-1		3AD01410
			ONE 2	~ ~	4		
0000	٠	0001	*	ВС	70001	INPUT AREA START ADDR OF FIRST HALF WD ADDR OF SECOND HALF WD CURRENT CORE ADDR WORD COUNT LAST CHECKSUM COL NEGATIVE ONE	3AD01420
0060	Λ	0010	COL1	DC	/0010	TAIDHT ADEA CTADT	3AD01430
		0000	INCOL	DC DC	70010	ADDD OF FIRST DALE ND	3AD01440
		0000	INCUL	DC	*-*	ADDE OF SECOND HATE HE	3AD01430
				00	*-*	ADDR OF SECOND HALF WU	3AUU1460
		0000	ADDR	DC	<b>∓</b> = <b>X</b>	CURRENI CURE ADDR	3AU01470
		0000	WDCNT	DC	*-*	WORD COUNT	3AD01480
		005F	COL78	DC	INPUTE79	LAST CHECKSUM COL	3AD01490
	_	FFFF	NONE	DC	-1	NEGATIVE ONE	3AD01500
			TWO	DC	/0002 INT4		3AD01500 3AD01510 3AD01520 3AD01530 3AD01540
			INTE	DC	INT4	INTERRUPT ENTRY WORD COUNT	3AD01520
		004E	WC2 K0003	DC		WORD COUNT	3AD01530
0077	0	0003	K0003	DC	/0003		3AD01540
			*				3AD01550
			*				3AD01560
			*		THE REMAIN	ING INSTRUCTIONS LOAD M DECK.	3AD01570
			*		THE PROGRAM	M DECK.	3AD01580
			<b>*</b>				3AD01590
			*				3AD01600
0078	0	COFC	SRTR2	LD	INTE	INTERRUPT VECTOR INITIALIZE LOADER RETURN POINT	3AD01610
0079	0	D092		STO	12	INTERRUPT VECTOR	3AD01620
007A				LD	COUNT-1	INITIALIZE LOADER	3AD01630
007 <b>B</b>	0	D <b>0</b> D4		STO	/0050	RETURN POINT	3AD01640
007C				I D	WC2		34001650
		D091		LD Sto	INPHIT-1	WORD COUNT	34001660
00.0	•	0071	*	3.0	14701 1	HOKE COOK!	34001600
			*			WORD COUNT	34001670
			*		CARD READ :	SECTION	3AD01690
			*		DEAD DOCCO	AM CARDS INTO /0010 - /005F	3AD01090
			*		KEAD PROGRA	AM CARDS INTO 70010 - 7005F	
			*				3AD01710
			*				
							3AD01720
0075	0	0050	*	×10	05670 1		24001720
		08E9		XIO	REST2-1		24001720
007F	0	4804		BSC	REST2-1		24001720
007 <b>F</b> 008 <b>0</b>	0 0	4804 7001		BSC MDX	REST2-1 E *&1	SENSE DSW SKIP IF READY	3AD01730 3AD01740 3AD01750 3AD01760
007F 008 <b>0</b> 0081	0 0 0	4804 7001 7002		BSC MDX MDX	REST2-1 E *&1 *&2	SENSE DSW SKIP IF READY	3AD01730 3AD01740 3AD01750 3AD01760
007F 008 <b>0</b> 008 <b>1</b> 008 <b>2</b>	0 0 0	4804 7001 7002 30F8		BSC MDX MDX	REST2-1 E *&1 *&2 -8	SENSE DSW SKIP IF READY	3AD01730 3AD01740 3AD01750 3AD01760
007F 008 <b>0</b> 0081	0 0 0	4804 7001 7002 30F8	SRTR3	BSC MDX MDX WAIT MDX	<del>-</del> 8 *-6	SENSE DSW SKIP IF READY NOT READY LOOP	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01790
007F 0080 0081 0082 0083	0 0 0 0	4804 7001 7002 30F8 70FA		BSC MDX MDX WAIT MDX	<del>-</del> 8 *-6	SENSE DSW SKIP IF READY NOT READY LOOP	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01790
007F 0080 0081 0082 0083	0 0 0 0 0	4804 7001 7002 30F8 70FA	SRTR3	BSC MDX MDX WAIT MDX	<del>-</del> 8 *-6	SENSE DSW SKIP IF READY NOT READY LOOP	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01790
007F 0080 0081 0082 0083	0 0 0 0 0	4804 7001 7002 30F8 70FA 08E1 4878	SRTR3	BSC MDX MDX WAIT MDX	<del>-</del> 8 *-6	SENSE DSW SKIP IF READY NOT READY LOOP	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01790
007F 0080 0081 0082 0083 0084 0085 0086	0 0 0 0 0	4804 7001 7002 30F8 70FA 08E1 4878 0000	SRTR3	BSC MDX MDX WAIT MDX	<del>-</del> 8 *-6	SENSE DSW SKIP IF READY NOT READY LOOP	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01790
007F 0080 0081 0082 0083 0084 0085 0086 0087	0 0 0 0 0 0 0	4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0	SRTR3	BSC MDX MDX WAIT MDX	<del>-</del> 8 *-6	SENSE DSW SKIP IF READY NOT READY LOOP	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01790
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088	0 0 0 0 0 0 0 0	4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE	SRTR3	BSC MDX MDX WAIT MDX	<del>-</del> 8 *-6	SENSE DSW SKIP IF READY NOT READY LOOP	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01790
007F 0080 0081 0082 0083 0084 0085 0086 0087	0 0 0 0 0 0 0 0	4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE	SRTR3	BSC MDX MDX WAIT MDX	<del>-</del> 8 *-6	SENSE DSW SKIP IF READY NOT READY LOOP	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01790
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088	0 0 0 0 0 0 0 0 0	4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848	* INT4	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC	-8 *-6 STRD2 &-Z *-* REST2-1 K0003	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01790
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088	0 0 0 0 0 0 0 0 0	4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848	* INT4	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC	-8 *-6 STRD2 &-Z *-* REST2-1 K0003	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01790 3AD01800 3AD01820 3AD01830 3AD01840 3AD01850 3AD01860
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088	0 0 0 0 0 0 0 0 0	4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC	* INT4	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC	-8 *-6 STRD2 &-Z *-* REST2-1 K0003	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE	3AD01730 3AD01740 3AD01750 3AD01760 3AD017760 3AD01780 3AD01800 3AD01810 3AD01820 3AD01830 3AD01840 3AD01850 3AD01850 3AD01850
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0089	0 0 0 0 0 0 0 0 0	4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC	* INT4	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX	-8 *-6 STRD2 &-Z *-* REST2-1 K0003 & *-4	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01810 3AD01810 3AD01820 3AD01830 3AD01840 3AD01850 3AD01860 3AD01870 3AD01880 3AD01880
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0089 008A	0 0 0 0 0 0 0 0 0 0 0	4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC	* INT4	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA	-8 *-6 STRD2 &-Z *-* REST2-1 K0003 & *-4	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01770 3AD01800 3AD01810 3AD01820 3AD01830 3AD01840 3AD01850 3AD01860 3AD01860 3AD01870 3AD01880 3AD01890
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0089	0 0 0 0 0 0 0 0 0 0 0 0	4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC	* INT4	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC	-8 *-6 STRD2 &-Z *-* REST2-1 K0003 & *-4 REST2-1	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01810 3AD01810 3AD01820 3AD01840 3AD01850 3AD01860 3AD01860 3AD01860 3AD01860 3AD01870 3AD01880 3AD01890 3AD01910
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0089 008A	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC 08DC 1002 4810 7002	* INT4	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC MDX	-8 *-6 STRD2 &-Z *-* REST2-1 K0003 & *-4 REST2-1 2 -	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR BR ON NO ERROR	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01810 3AD01810 3AD01820 3AD01830 3AD01840 3AD01850 3AD01860 3AD01870 3AD01870 3AD01890 3AD01910 3AD01920
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0089 008A		4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC 08DC 1002 4810 7002 30F5	* INT4	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC MDX WAIT	-8 *-6 STRD2 &-Z *-* REST2-1 K0003 & *-4 REST2-1 2 CDOK -11	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR BR ON NO ERROR 2501 READ ERROR	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01810 3AD01820 3AD01830 3AD01840 3AD01850 3AD01860 3AD01860 3AD01870 3AD01870 3AD01890 3AD01910 3AD01930
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0089 008A		4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC 08DC 1002 4810 7002 30F5	* INT4	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC MDX	-8 *-6 STRD2 &-Z *-* REST2-1 K0003 & *-4 REST2-1 2 -	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR BR ON NO ERROR	3AD01730 3AD01740 3AD01750 3AD01760 3AD01780 3AD01800 3AD01810 3AD01840 3AD01850 3AD01850 3AD01860 3AD01860 3AD01870 3AD01890 3AD01900 3AD01900 3AD01930 3AD01940
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0089 008A		4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC 08DC 1002 4810 7002 30F5	* INT4 *	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC MDX WAIT	-8 *-6 STRD2 &-Z *-* REST2-1 K0003 & *-4 REST2-1 2 CDOK -11	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR BR ON NO ERROR 2501 READ ERROR	3AD01730 3AD01740 3AD01750 3AD01760 3AD017780 3AD01780 3AD01840 3AD01840 3AD01850 3AD01850 3AD01860 3AD01860 3AD01870 3AD01890 3AD01900 3AD01910 3AD01920 3AD01930 3AD01940 3AD01950
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0089 008A		4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC 08DC 1002 4810 7002 30F5	* INT4 *	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC MDX WAIT	-8 *-6 STRD2 &-Z *-* REST2-1 K0003 & *-4 REST2-1 2 - CDOK -11 SRTR3	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR BR ON NO ERROR 2501 READ ERROR RETRY	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01810 3AD01810 3AD01820 3AD01840 3AD01850 3AD01860 3AD01860 3AD01870 3AD01880 3AD01890 3AD01910 3AD01920 3AD01930 3AD01930 3AD01940 3AD01950 3AD01960
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0089 008A		4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC 08DC 1002 4810 7002 30F5	* INT4  *	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC MDX WAIT	-8 *-6 STRD2 &-Z *-* REST2-1 K0003 & *-4 REST2-1 2 - CDOK -11 SRTR3	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR BR ON NO ERROR 2501 READ ERROR RETRY	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01810 3AD01810 3AD01820 3AD01840 3AD01850 3AD01860 3AD01860 3AD01870 3AD01890 3AD01900 3AD01910 3AD01920 3AD01930 3AD01930 3AD01950 3AD01950 3AD01970
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0089 008A		4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC 08DC 1002 4810 7002 30F5	* INT4 *	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC MDX WAIT	-8 *-6 STRD2 &-Z *-* REST2-1 K0003 & *-4 REST2-1 2 - CDOK -11 SRTR3	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR BR ON NO ERROR 2501 READ ERROR RETRY	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01810 3AD01810 3AD01820 3AD01840 3AD01850 3AD01860 3AD01860 3AD01890 3AD01900 3AD01910 3AD01920 3AD01920 3AD01930 3AD01930 3AD01940 3AD01950 3AD01960 3AD01970 3AD01980
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0089 008A		4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC 08DC 1002 4810 7002 30F5	* INT4  * * ** ** ** **	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC MDX WAIT	-8 *-6 STRD2 &-Z *-* REST2-1 K0003 & *-4 REST2-1 2 - CDOK -11 SRTR3	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR BR ON NO ERROR 2501 READ ERROR RETRY	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01770 3AD01800 3AD01810 3AD01820 3AD01830 3AD01860 3AD01860 3AD01860 3AD01860 3AD01870 3AD01900 3AD01910 3AD01930 3AD01940 3AD01940 3AD01950 3AD01960 3AD01970 3AD01960 3AD01990
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0089 008A	000000000000000000000000000000000000000	4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC 08DC 1002 4810 7002 30F5 607E	* INT4  * * ** ** ** ** ** ** ** ** ** ** **	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC MDX WAIT LDX	*-6  STRD2 &-Z *-* REST2-1 K0003 & *-4  REST2-1 2 - CDOK -11 SRTR3  CHECKSUM SI ADD COLUMN	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR BR ON NO ERROR 2501 READ ERROR RETRY	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01800 3AD01810 3AD01820 3AD01840 3AD01850 3AD01860 3AD01860 3AD01860 3AD01870 3AD01900 3AD01910 3AD01920 3AD01930 3AD01940 3AD01950 3AD01960 3AD01970 3AD01990 3AD01990 3AD01990 3AD01990 3AD01990
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0088 008B 008B 008B 008F 0090	000000000000000000000000000000000000000	4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC 08DC 1002 4810 7002 30F5 607E	* INT4  * * ** ** ** **	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC MDX WAIT LDX	*-6  STRD2 &-Z *-* REST2-1 K0003 & *-4  REST2-1 2 - CDOK -11 SRTR3  CHECKSUM SI ADD COLUMN:	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR BR ON NO ERROR 2501 READ ERROR RETRY  ECTION S 1-78 AND CHECK FOR ZERO	3AD01730 3AD01740 3AD01750 3AD01760 3AD01780 3AD01780 3AD01810 3AD01810 3AD01830 3AD01850 3AD01850 3AD01860 3AD01870 3AD01980 3AD01990 3AD01900 3AD01930 3AD01940 3AD01950 3AD01960 3AD01960 3AD01960 3AD01960 3AD01960 3AD01960 3AD01970 3AD01980 3AD01980 3AD01990 3AD02010
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0089 008C 008B 008F 0090		4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC 08DC 1002 4810 7002 30F5 607E	* INT4  * * ** ** ** ** ** ** ** ** ** ** **	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC MDX WAIT LDX	*-6  STRD2 &-Z *-* REST2-1 K0003 & *-4  REST2-1 2 - CDOK -11 SRTR3  CHECKSUM SI ADD COLUMN:	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR BR ON NO ERROR 2501 READ ERROR RETRY  ECTION S 1-78 AND CHECK FOR ZERO  CLEAR CHECKSUM	3AD01730 3AD01740 3AD01750 3AD01760 3AD01780 3AD01800 3AD01810 3AD01830 3AD01840 3AD01850 3AD01860 3AD01860 3AD01860 3AD01870 3AD01890 3AD01910 3AD01910 3AD01920 3AD01940 3AD01950 3AD01950 3AD01960 3AD01970 3AD01970 3AD01970 3AD01970 3AD01980 3AD01970 3AD01970 3AD01980 3AD01970 3AD01980
007F 0080 0081 0082 0083 0084 0085 0086 0087 008A 008B 008C 008B 008F 0090		4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC 08DC 1002 4810 7002 30F5 607E	* INT4  * * ** ** ** ** ** ** ** ** ** ** **	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC MDX WAIT LDX	-8 *-6 STRD2 &-Z *-* REST2-1 K0003 & *-4 REST2-1 2 - CDOK -11 SRTR3 CHECKSUM SI ADD COLUMNS	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR BR ON NO ERROR 2501 READ ERROR RETRY  CLEAR CHECKSUM SET UP	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01810 3AD01810 3AD01830 3AD01840 3AD01850 3AD01860 3AD01860 3AD01870 3AD01890 3AD01910 3AD01910 3AD01920 3AD01930 3AD01940 3AD01950 3AD01960 3AD01970 3AD01980 3AD01970 3AD01980 3AD01930
007F 0080 0081 0082 0083 0084 0085 0086 0087 0088 0080 008B 008C 008D 008F 0090	00000 000000 00000 0000	4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC 08DC 1002 4810 7002 30F5 607E	* INT4  * * ** ** ** ** ** ** ** ** ** ** **	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC MDX WAIT LDX	-8 *-6 STRD2 &-Z *-* REST2-1 K0003 & *-4 REST2-1 2 - CDOK -11 SRTR3 	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR BR ON NO ERROR 2501 READ ERROR RETRY  ECTION S 1-78 AND CHECK FOR ZERO  CLEAR CHECKSUM SET UP INPUT AREA	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01810 3AD01810 3AD01820 3AD01830 3AD01840 3AD01860 3AD01860 3AD01870 3AD01890 3AD01910 3AD01920 3AD01930 3AD01940 3AD01950 3AD01950 3AD01960 3AD01970 3AD01980 3AD01990 3AD01990 3AD02000 3AD02000 3AD02000 3AD02040
007F 0080 0081 0082 0083 0084 0085 0086 0087 008A 008B 008C 008B 008F 0090	00000 000000 00000 0000	4804 7001 7002 30F8 70FA 08E1 4878 0000 08E0 F0EE 4848 70FC 08DC 1002 4810 7002 30F5 607E	* INT4  * * ** ** ** ** ** ** ** ** ** ** **	BSC MDX MDX WAIT MDX XIO BOSC DC XIO EOR BOSC MDX XIO SLA BSC MDX WAIT LDX	-8 *-6 STRD2 &-Z *-* REST2-1 K0003 & *-4 REST2-1 2 - CDOK -11 SRTR3 CHECKSUM SI ADD COLUMNS	SENSE DSW SKIP IF READY  NOT READY LOOP  INITIATE READ UNCOND LEAVE INTERRUPT INTERRUPT ENTRY SENSE RESET CHECK FOR CHANGES SKIP IF ANY CHANGE LOOP TIL OP COMP  SENSE DSW  SKIP IF ERROR BR ON NO ERROR 2501 READ ERROR RETRY  CLEAR CHECKSUM SET UP	3AD01730 3AD01740 3AD01750 3AD01760 3AD01770 3AD01780 3AD01810 3AD01810 3AD01830 3AD01840 3AD01850 3AD01860 3AD01860 3AD01870 3AD01890 3AD01910 3AD01910 3AD01920 3AD01930 3AD01940 3AD01950 3AD01960 3AD01970 3AD01980 3AD01970 3AD01980 3AD01930

			*			END OF MO CHECK FOR	VE. END CARD AND REINITIALIZE	3AD027 3AD027
			* *					3AD026 3AD <b>02</b> 6
	0 7008			MDX			BR TO INCR ADDR AND CONT	3AD026
	0 4820			BSC		Z	SKIP IF LAST WORD	3AD026
	0 DOA8			STO			DECREMENTED WORD COUNT	3AD026
	0 80AB		MVOK	LD A		NONE	CHECK IF ALL WORDS MOVED	3AD026 3AD026
00 <b>¢</b> 4	O COAA		* *	1.0		WDCNT	CHECK IE VII HUDDE	3AD026
00C5	0 70F2			MDX		MVLD	RETRY MOVE	3AD026
	0 30FC			WAIT		-4	MOVE ERROR	3AD026
	0 7002			MDX		MVOK		3 AD 0 2 5
	0 7001			MDX		*&1	ERROR	3AD025
	0 4820			BSC	•	Z	SKIP IF MOVE OK	3AD025
	0 F480			EOR	Ī	ADDR	COMPARE TO ACC	3AD025
		0070		STO	Ţ	ADDR	STO AT CURRENT ADDRESS	3AD025
	0 F480			EOR	T	INCULE:	LOAD AND PACK THE WORD STO AT CURRENT ADDRESS	3AD025
OUBY	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	UU6E	MVLD	LD SRA	1	INCUL	DACK DACK	3AD025 3AD025
	0 D0B9		MVII D	STO		WDCNT	LOAD AND	3AD025
	O FOA2			EOR				3AD025
	0 1808			SRA		8	OF WORDS TO BE MOVED	3AD024
	O COA3			LD		INWC	SET NUMBER OF WORDS TO BE MOVED	3AD024
			*					3AD024
	O DOBC			STO		INAD1 ADDR	FROM CARD	3AD024
	0 F0A8			EOR		INAD1	LOCATION FROM CARD	3AD024
	0 1808			SRA		8	SET INPUT AREA ADDRESSES  SET CURRENT CORE	3AD024
0080	0 COA9		•	LD		INAD	SET	3AD024
JUAL	0 0 <b>0</b> 0F		*	310		INCOFUT		3AD024
	0 DOBF			A STO		INCOLET	AUUKE3565	3AD024
	0 80BD			A .		ONE 2	ANDRESSES	3AD023 3AD024
	0 COCO		CSUK	STO		LNCOL	SET INDUT AREA	3AD023
00.40	0 0000		\ *	LD		COLI	CET	3 ADO 23
								3AD023
			*			WORD.		3AD023
			*				HAT WAS MOVED TO PACKED	
			*			AND MOVE	TO THE PROPER LOCATION. HAT WAS MOVED TO PACKED	3AD023
			*			PACK EACH	TWO COLUMNS INTO ONE WORD	3AD023
			*			MOVE AND	CHECK SECTION	3 AD 0 2 3
			*				CHECK SECTION	3AD023
, J <b>.</b>			*					3AD022
	0 70E5			MDX		CĎOK	RETRY CHECKSUM	3AD022
	0 30F7			WAIT		-9	BR TD MOVE ROUTINE CHECKSUM ERROR	3AD022
	0 7001			MDX		*&1 CSOK	RR TO MOVE POUTING	3AD022 3AD022
	0 4820 0 7001			BSC MDX		Z * C 1	SHIP IF OK	3AD022
	0 COC1			LD			CHECK FOR VALID CHECKSUM	
			*					3AD022
00A5	0 70F1			MDX		CSLD	CONTINUE	3AD022
	0 4820			BSC		Z	SKIP IF LAST COL	3AD022
00A3	0 FOCE			EOR		COL78	CHECK FOR LAST COL	3AD021
	O DOCC			STO		INCOLET	*	340021
	0 80CA			A		ONE 2	ADDRESSES	3AD021
	0 DOCD			STO		INCOL	INPUT AREA	3AD021
	0 80D4			A		TWO	* INCREMENT INPUT AREA ADDRESSES	3AD021
009F	0 COCF		*	LD		INCOL		3AD021 3AD021
0090	O DOCA		*	STO		CKSUM	STURE RESULT	3AD021
	0 80CB			A		CKSUM	ADD TO CHECKSUM	3AD021
		006F		EOR	I	INCOLEI	SHIFT COMBINE SECONE HALF ADD TO CHECKSUM STORE RESULT	3AD021
	0 1808			SRA		_	SHIFT	3AD020
	0 C480		CSLD		I	INCOL	LOAD FIRST HALF WD	3AD020
								3AD020

18M MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM BASIC DIAGNOSTIC LOADER - 2501

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				*						
0008	0	COA4				LD		ADDR	CHECK FOR LAST SITE	3AD02740
0000						SRA			CHECK FOR LAST CARD	3AD02750
0000								6	ADDR LESS THAN 40	3AD02760
00CE	_					8SC		Z	SKIP IF LAST CARD	3AD02770
						MDX		SRTR3	8R TO READ NEXT CARD	3AD02780
00CF	_					LD		COUNT-1	INITIALIZE LOADER	3AD02790
0000			0050			STO	L	/0050	RETURN POINT	3AD02190
0002	0	6004				LDX		/0004	8R TO SEGIN PROGRAM	
				*					ON TO CECTA TROOKAM	3AD02810
0003	0	C09A		MV	ΙN	LD		INCOL	INCREMENT	3AD02820
0004	0	809F				A		TWO		3AD <b>02830</b>
<b>00</b> D5	0	D098				STO			INPUT AREA	3AD02840
0006								INCOL	ADDRESSES	3AD02850
0007	-					A		DNE2		3AD02860
000;	U	0091				STO		INCOL&1		3AD02870
0000	_			*						3AD02880
0008	_					ΓD		ADDR	INCREMENT	3AD02890
0009	_	8092				A	4	DNE2	CURRENT	3AD02990
00DA	. 0	D095				STO		ADDR	STORE ADDRESS	
8000	0	70DC				MDX		MVLD		3AD02910
00DC		0000				END		)	8R TO MOVE NEXT WORD	3AD02920
NO	ST	ATEMEN	ITS EL	AGGED	IN	THE	A 80V	_		3AD02930
	•			-0000	T 14		M OUV	E ASSEM8LY		

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DATE EC NO. 420317

PART NU. 2243559 PAGE

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CROSS REFERENCE
 NAME VALUE REFERENCES
 ADDR 0070 0083,008D,008F,00CB,00D8,00DA
 CARD2 0050 0049
 CDCNT 006A
 CDOK 0091 008E,00AB
 CHKSM 002E 001C,001E,0025
CKSUM 0068 0092,009C,009D,00A6
 COL1
       006D 0093,00AC
COL78 0072 00A3
 CON1 002F
            0022
COUNT 0064 005D,005F,007A,00CF
      0097 00A5
 CSLD
 CSOK
      00AC 00A9
 ENDCK 0028
 END1
       0049
       003A 0006,0007,0010,0040
 EOR
 INAD
      005A 0080
 INAD1 0058 0082
INCOL 006E 0094,0096,0097,009A,009E,00A0,00A2,00AD,00AF,0088,0088,00D3,00D5
            00D7
INPUT 0010 0066,0068,0072,007D
       0031 000C
 INT
INTE
      0075 0078
      0086 0075
INT4
INWC
       0058 0084
INWC1 0059 0086
IPACK 006B
K0003 0077 0088
K0004 0065 0060
K0800 0029
K4001 002B 0009,0016
      002C 0014,0015,0046,0058,005C
LAST
MVIN
      00D3 00CA
MVLD
      0088 00C5,00D8
MVOK
      0006 0003
NONE
      0073 0007
      0030 000F,0012,0020,003F,0041,0044,005E
ONE
ONE 2
      006C 0095,00A1,00AE,00D6,00D9
      0037 0000,0002,0003,0013,0032,003E,0042,0048
PACK
RDIN
      0050
RESET 002D 000A,0018,0034
REST2 0069 007E,0087,0088
SRTRD 0033 0028,0036,0062
SRTR2 0078 0063
SRTR3 007E 0090,00CE
START 0000
      003C 0004,0005,0011,0043,0045
STO
STOWC 0051 0056,0058
      002A 000E,0019,0033,0053,0055
STRD
STRD2 0066 0084
STRT
      001C 001F,0021,0024,002F
TWO
      0074 009F,00D4
      004F 001B,0050,0051,0054,0057,0059
WC
WC2
      0076 007C
WDCNT 0071 0087,00C6,00C8
END OF ASSEMBLY
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------ LAST PAGE -----

18M MAINTENANCE DIAGNOSTIC PROGRAM FOR THE 1130 SYSTEM

BASIC DIAGNOSTIC LOADER - 2501

15JUN67